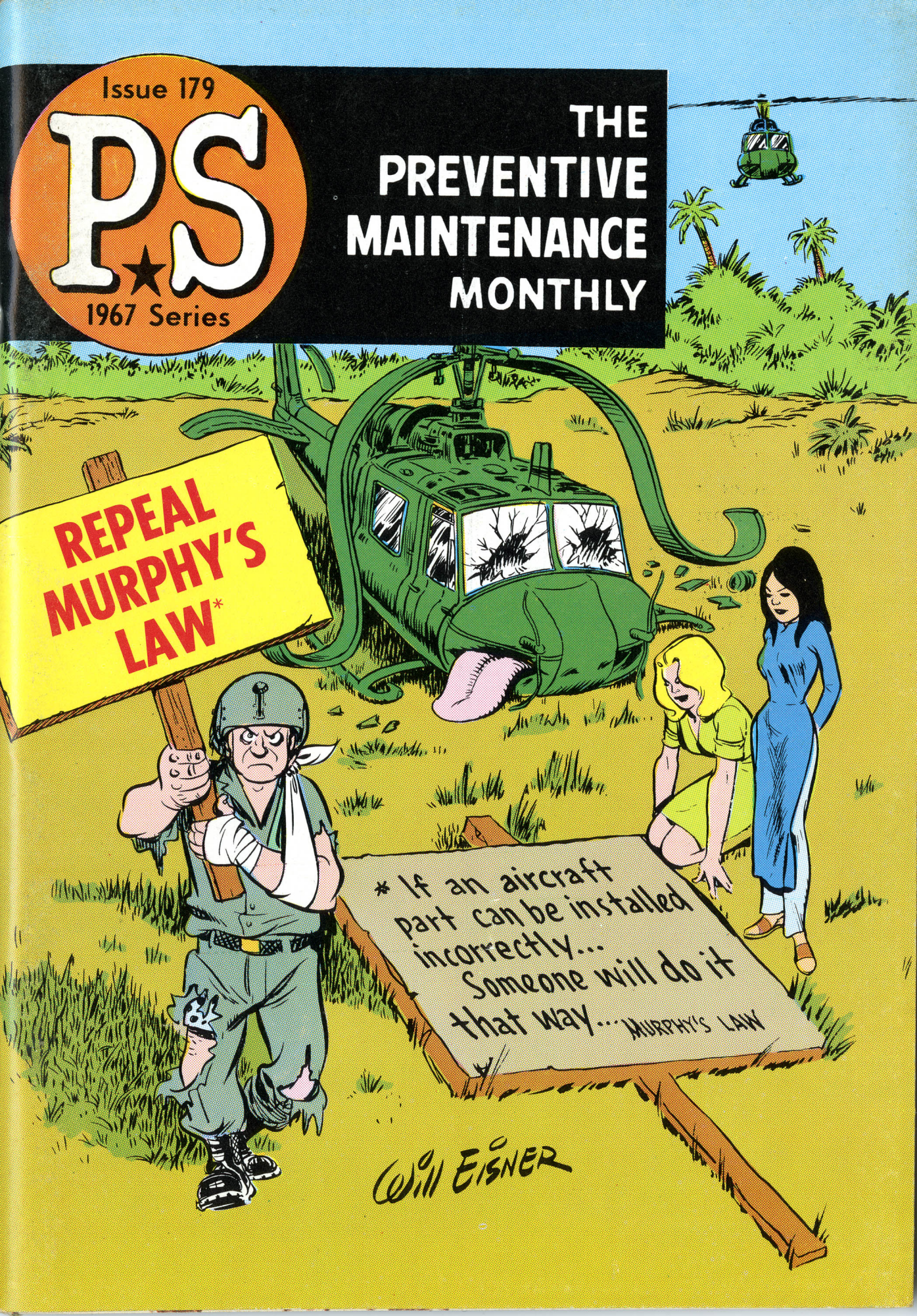

Issue 179
PS
1967 Series
THE PREVENTIVE MAINTENANCE MONTHLY
REPEAL MURPHY'S LAW*
* If an aircraft part can be installed incorrectly... Someone will do it that way... MURPHY'S LAW
Will Eisner

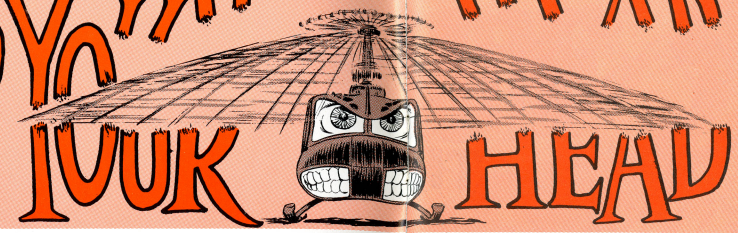
KEEP YOUR

Chances are you'll be an aircraft passenger during your Army service. One careless move . . . one small distraction while getting on or off an aircraft and ZAP goes your cap!

You may be a passenger, gunner, crew chief, pilot or co-pilot—those whirling main and tail rotor chopper blades or fixed wing props could care less. They'll kill you as quick as a sniper.

So, heads up, and keep a rubber neck when you're around any aircraft. Keep a good head—YOURS—on your shoulders.

KEEP YOUR HEAD



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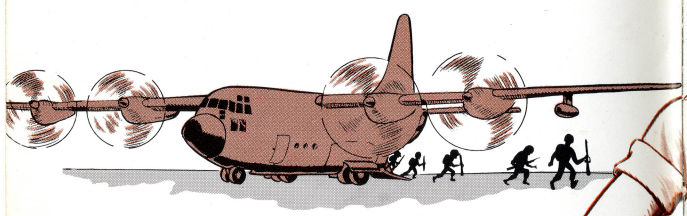

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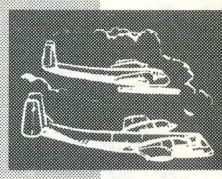

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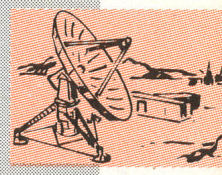

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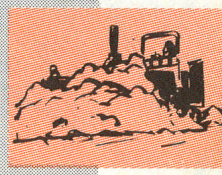

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XM21 SUBSYSTEM...
ME
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GU
LET'S TAKE A SLOW-MOTION BEFORE-MISSION TOUR OF TROUBLE SPOTS AND PM TIPS!

XM21 SUBSYSTEM . . .

MEET MINNIE THE GUN

She's blinking fast — 2400 to 4000 7.62-MM rounds a minute — and she's the new moll that teams with the 2.75-in folding fin aerial rocket launcher to give Charlie the ol' zaparoo from a UH-1B Huey.

You're familiar, of course, with the XM158 rocket launcher part of this system. The same poop that appeared in PS 171 still goes.

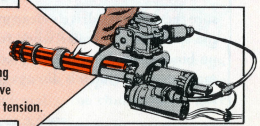
Stands to reason any weapon that spits bullets as fast as this High Rate GAU-2B/A has got to operate smoothly all the way . . . all the time. Anything that's a fraction of an inch off can rip things to heck when this baby starts zipping.

HEADS UP ALL THE WAY

You need a perfect loading job or you'll have to land to get it unjammed.

Safety is a major part of PM on this system, so make sure the safing sector's removed before you even think of loading.

Here's how:
Turn the barrel in the opposite direction to firing rotation to relieve firing pin spring tension.



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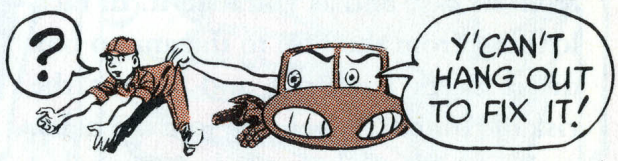

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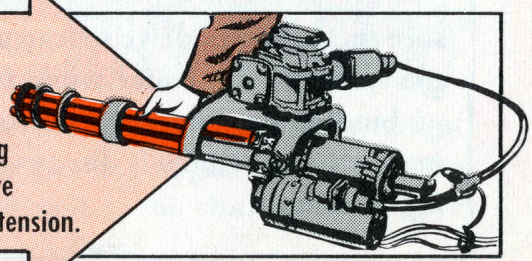

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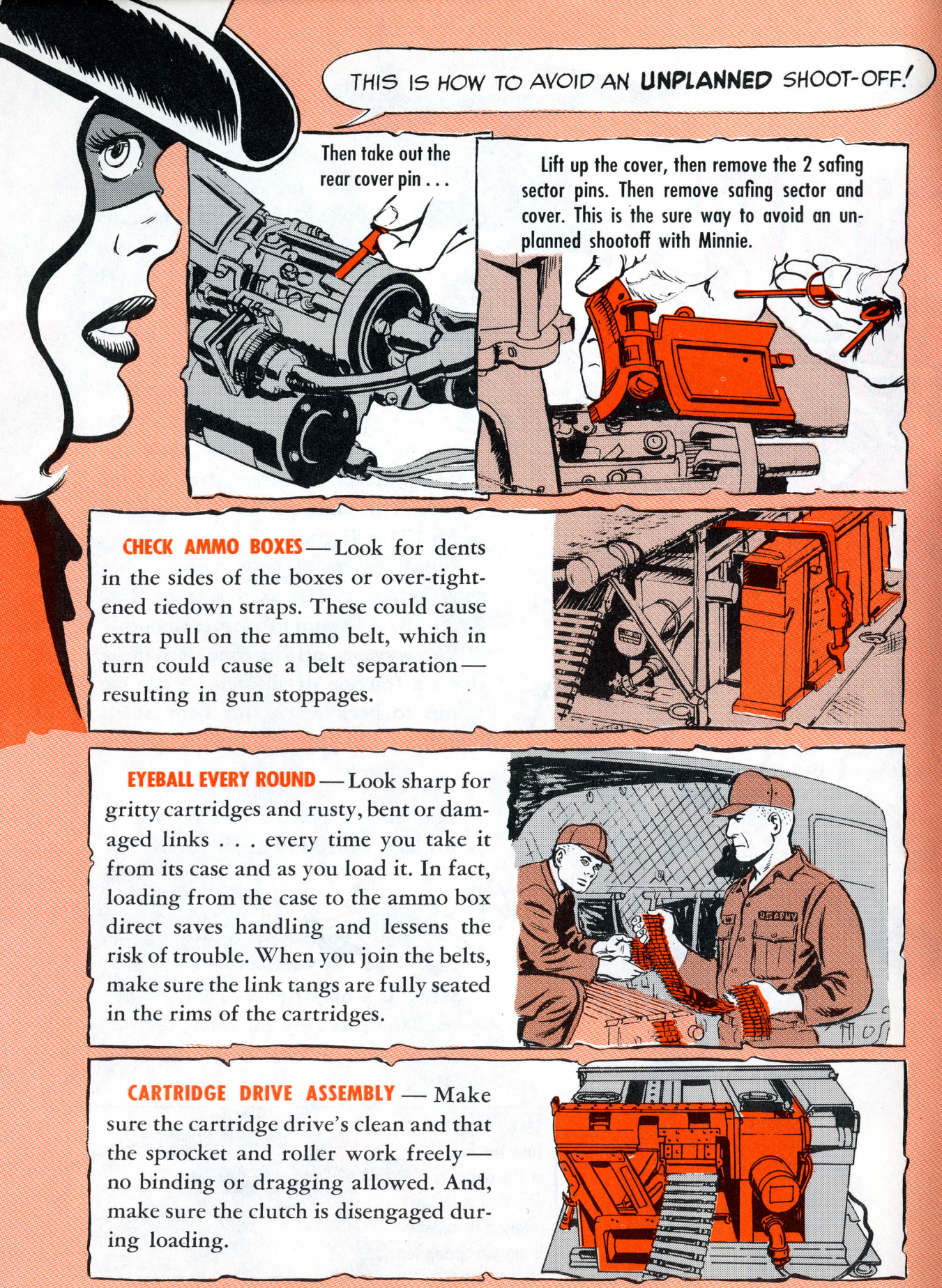


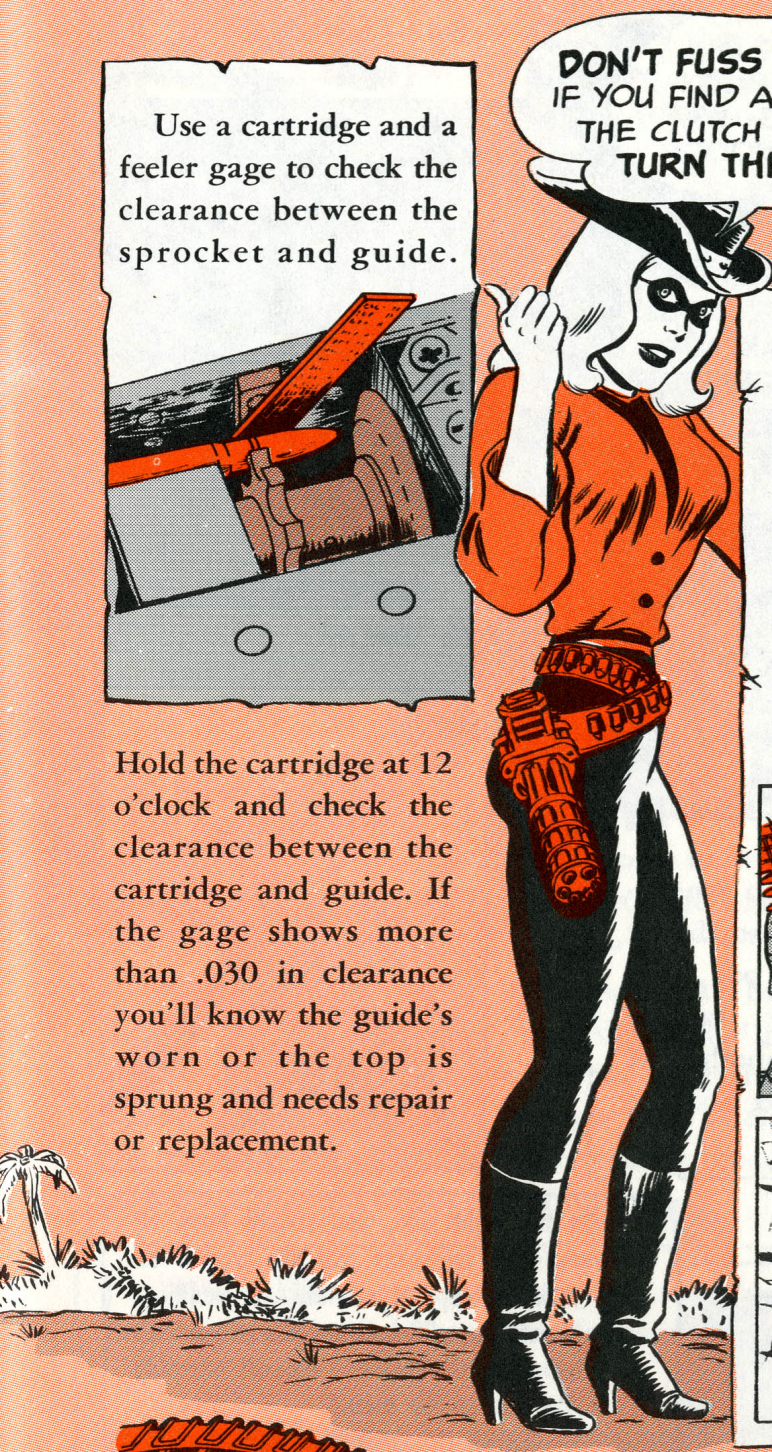
CHECK AMMO BOXES — Look for dents in the sides of the boxes or over-tightened tiedown straps. These could cause extra pull on the ammo belt, which in turn could cause a belt separation — resulting in gun stoppages.

EYEBALL EVERY ROUND — Look sharp for gritty cartridges and rusty, bent or damaged links . . . every time you take it from its case and as you load it. In fact, loading from the case to the ammo box direct saves handling and lessens the risk of trouble. When you join the belts, make sure the link tangs are fully seated in the rims of the cartridges.

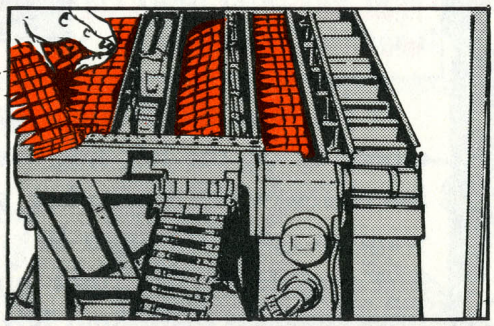
CARTRIDGE DRIVE ASSEMBLY — Make sure the cartridge drive's clean and that the sprocket and roller work freely — no binding or dragging allowed. And, make sure the clutch is disengaged during loading.

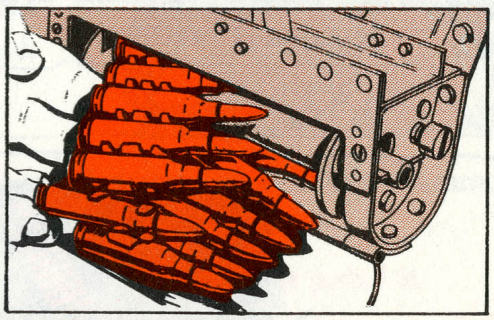
Use a cartridge and a feeler gage to check the clearance between the sprocket and guide.

Hold the cartridge at 12 o'clock and check the clearance between the cartridge and guide. If the gage shows more than .030 in clearance you'll know the guide's worn or the top is sprung and needs repair or replacement.



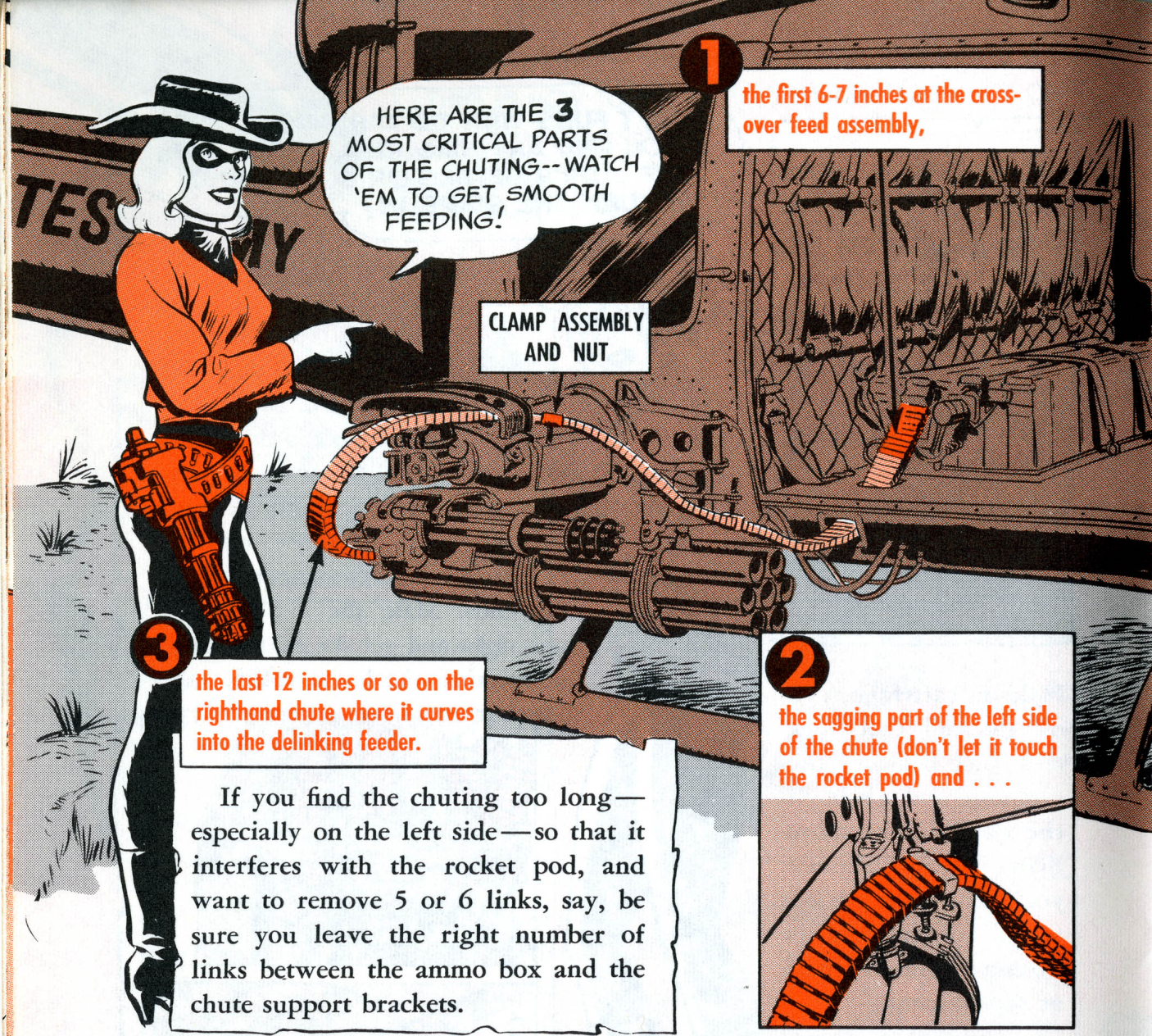
FILLING THE BOXES—Follow the poop in Figs 2-32 and 2-33 of TM 9-1090-202-12 to a 'T'. Take your time and do a Zero Defects job. Be sure you pack each ammo compartment completely and neatly—no sagging or intertwining projectile ends. Mate the 2 belts just right and get the rounds snug against the lower roller.





AMMO CHUTES — Check 'em regularly for bent or twisted interlocking tangs. Make sure they're clear for duty. And make sure they're clipped on right at the cartridge guide and feeder delinker ends. Incidentally, the chuting must have the closed side up—not like some -12 TM pictures show.

P.S. MORE



1 the first 6-7 inches at the cross-over feed assembly,

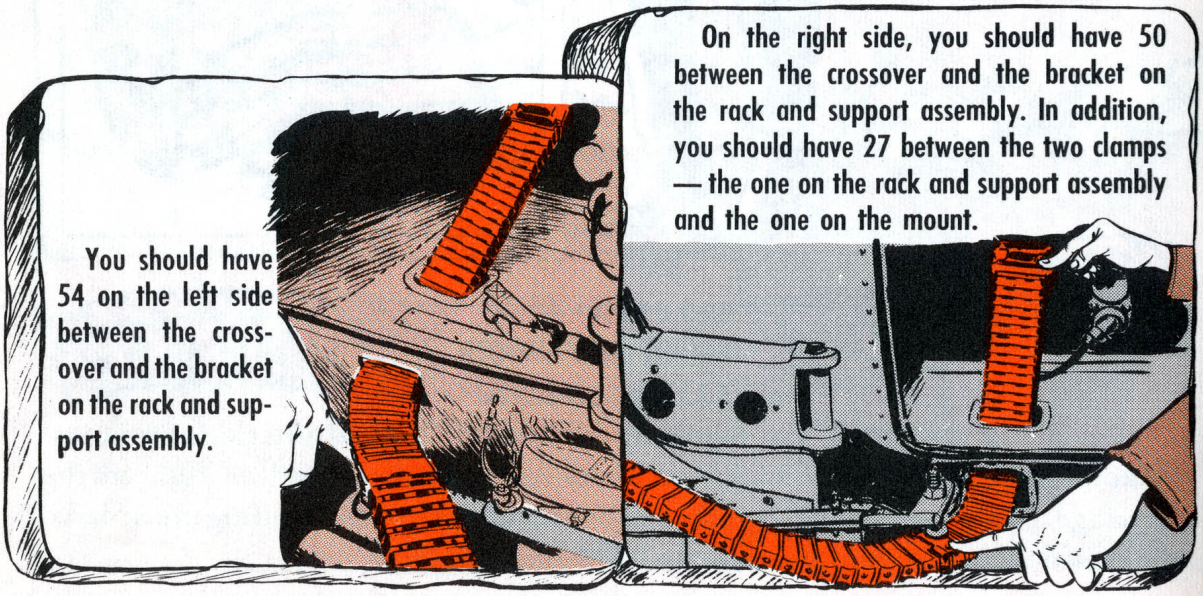
2 the sagging part of the left side of the chute (don't let it touch the rocket pod) and . . .

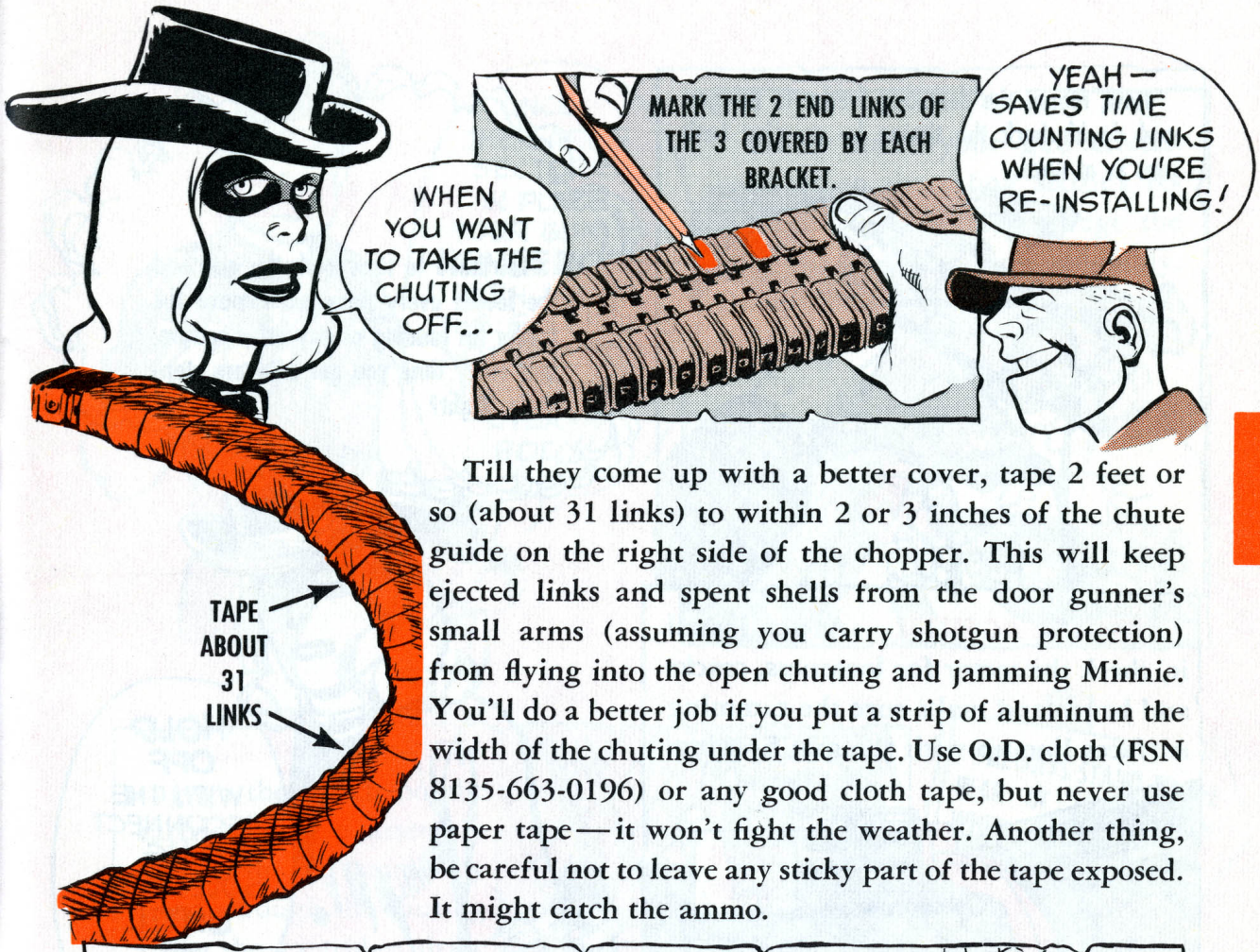
3 the last 12 inches or so on the righthand chute where it curves into the delinking feeder.

If you find the chuting too long—especially on the left side—so that it interferes with the rocket pod, and want to remove 5 or 6 links, say, be sure you leave the right number of links between the ammo box and the chute support brackets.

You should have 54 on the left side between the cross-over and the bracket on the rack and support assembly.

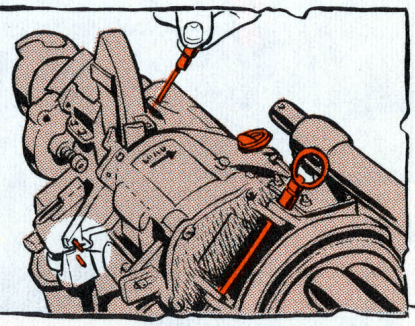
On the right side, you should have 50 between the crossover and the bracket on the rack and support assembly. In addition, you should have 27 between the two clamps — the one on the rack and support assembly and the one on the mount.





Till they come up with a better cover, tape 2 feet or so (about 31 links) to within 2 or 3 inches of the chute guide on the right side of the chopper. This will keep ejected links and spent shells from the door gunner's small arms (assuming you carry shotgun protection) from flying into the open chuting and jamming Minnie. You'll do a better job if you put a strip of aluminum the width of the chuting under the tape. Use O.D. cloth (FSN 8135-663-0196) or any good cloth tape, but never use paper tape — it won't fight the weather. Another thing, be careful not to leave any sticky part of the tape exposed. It might catch the ammo.

DELINKING FEEDER — Give it the once-over for bent or dirty release pins or ones that won't go in and out easy. Check to see that the 2 clearing guide stop pins stick out enough (say, about 5/16 inch) and then make sure the feeder's timed. If those 2 pins are in too far, Minnie'll jam.



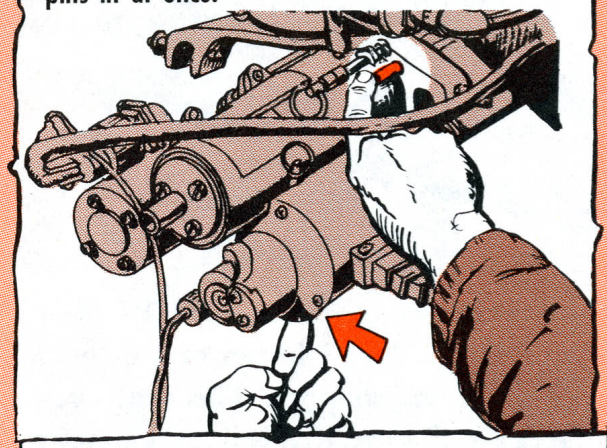
TIMING — Right, the big secret of a trouble-free firing mission is in the ammo loading **and** the timing of the delinking feeder **and** the gun.

Time the gun first, like so: Turn the barrel cluster till the timing pin can be pushed in.

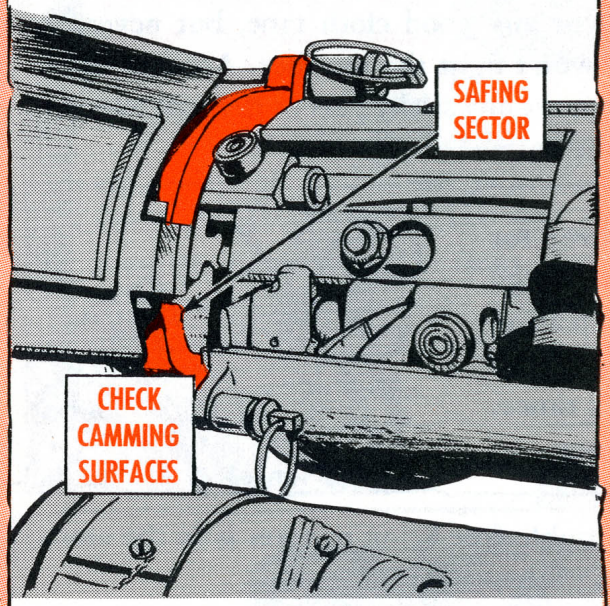
Then time the delinking feeder by pressing in on the timing pin.

PS MORE

Now, mount the delinking feeder to the gun and doublecheck the timing by pressing both pins in at once.



INSTALL SAFING SECTOR — As you install it, check the sector for looseness, cracks and bends and make sure the camming surfaces line up with the gun housing.

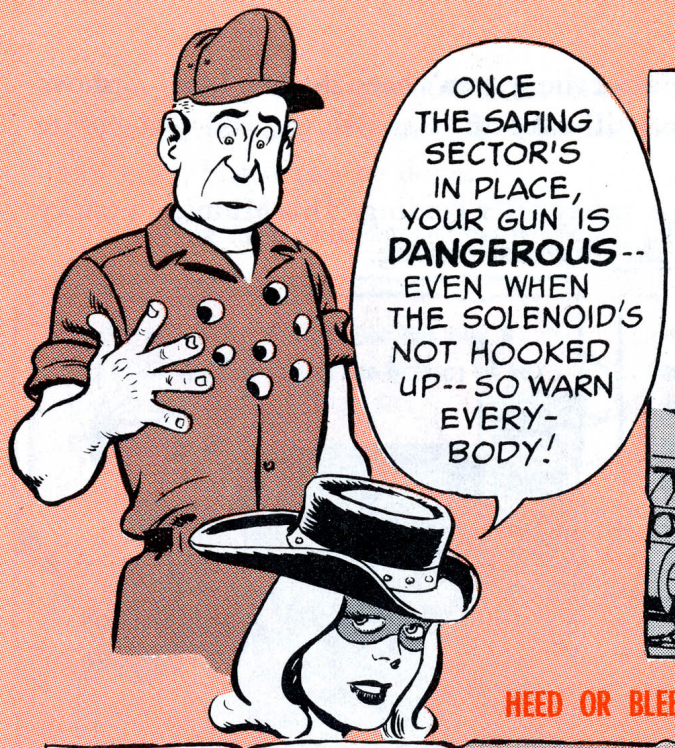


Also make sure the bearing roller of the bolt assembly is properly engaged in the cam path of the sector.

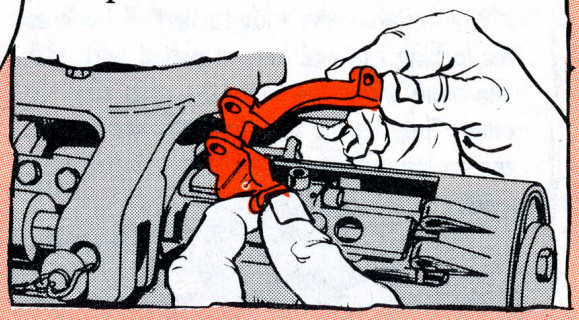
REMINDER

You have to time both the gun and the feeder every time you remove the feeder for loading or any other reason, and every time you get a severe stoppage. Right?

HOLD OFF WITH THE DISCONNECT PLUG SOLENOID **UNTIL** THE SAFING SECTOR IS COMPLETELY INSTALLED!

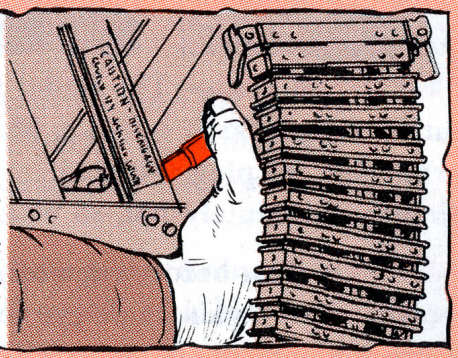


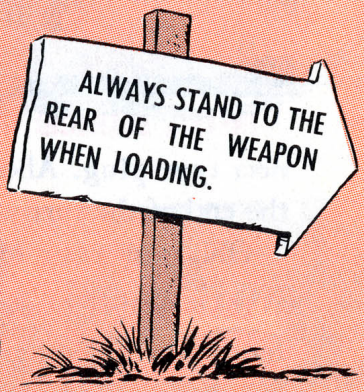
Never drive your gun electrically when the safing sector's removed. You'll likely damage the gun housing and bolt assembly. Rotation by hand can fire this weapon.



HEED OR BLEED!

LOADING THE GUN — Disengage the clutch on the cartridge drive assembly and push the ammo by hand through the chuting from the cartridge drive assembly to the delinking feeder.

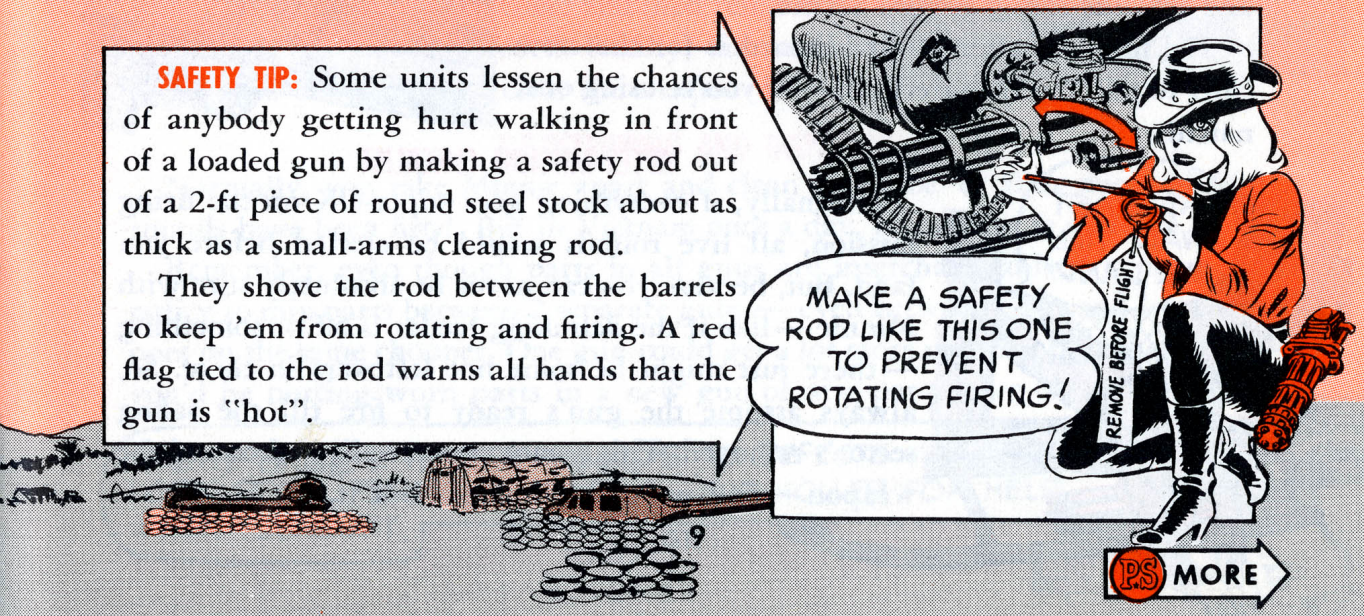




Push the first couple of linked cartridges through the feeder till they're nestled in the sprockets. Now you can rotate the barrels by hand till one round comes out and falls to the ground. The delinking feeder has room for 9 rounds. These'll fill it to the full so you'll get instant firepower when you go into action.

SAFETY TIP: Some units lessen the chances of anybody getting hurt walking in front of a loaded gun by making a safety rod out of a 2-ft piece of round steel stock about as thick as a small-arms cleaning rod.

They shove the rod between the barrels to keep 'em from rotating and firing. A red flag tied to the rod warns all hands that the gun is "hot".

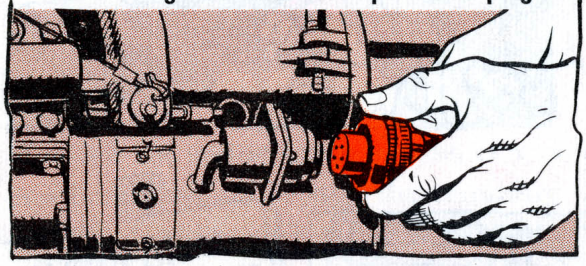


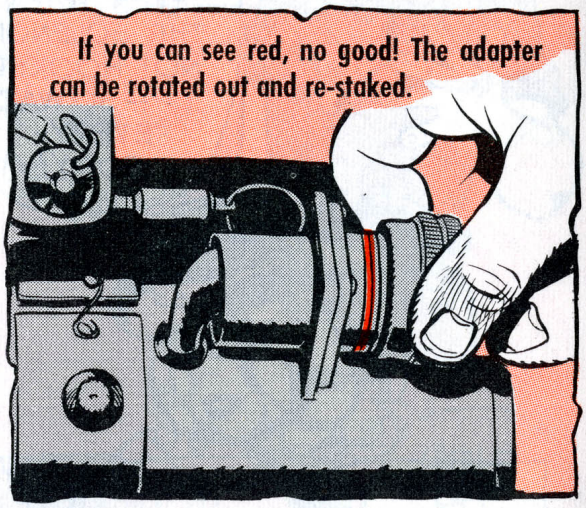
P.S. MORE

However, use a rod like this only after the system's been loaded. Like . . . shove the rod in and let the system stand till take-off. Remove the rod just before take-off.

But, never depend on this rod as a safety after landing. This Minnie's a tricky wench. She could go off with just the slightest jarring.

INSTALL GUN DRIVE MOTOR CANNON PLUG — Here's the trick to it: Pull back on the locking cap and keep it pulled back with one hand while you mate the plug with the other. Then let the cap snap forward till you can no longer see the red stripe on the plug.



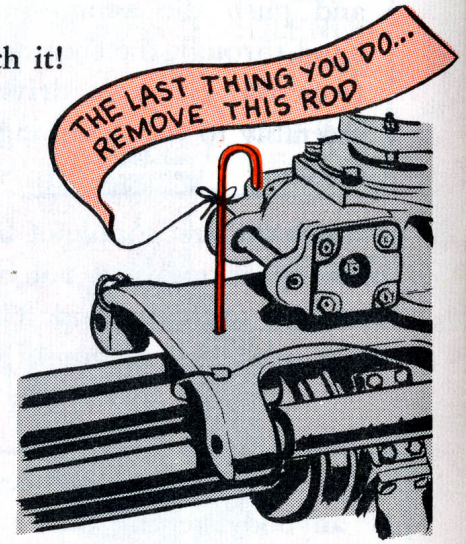


INSTALL SOLENOID QUICK RELEASE PLUG — The feeder solenoid has a quick disconnect type plug. About ½ turn locks it in place. Make sure you feel the catch at the end of the turn to tell that the plug is locked.

OK, now your Minnie is absolutely hot, so watch it!

LAST-MINUTE DOUBLECHECK — Just before take-off, have every member of the crew again eagle-eye to see that all electrical connections are OK, especially the drive motor's feeder solenoid and the quick-disconnect at the side of the helicopter and the rocket racks and support assemblies. Also doublecheck that the cartridge drive clutch is cocked (pressed down) and that the safing sector's secure.

The final act after all are aboard is for the crew chief to pull out the safety rod — if you're using one, natch!

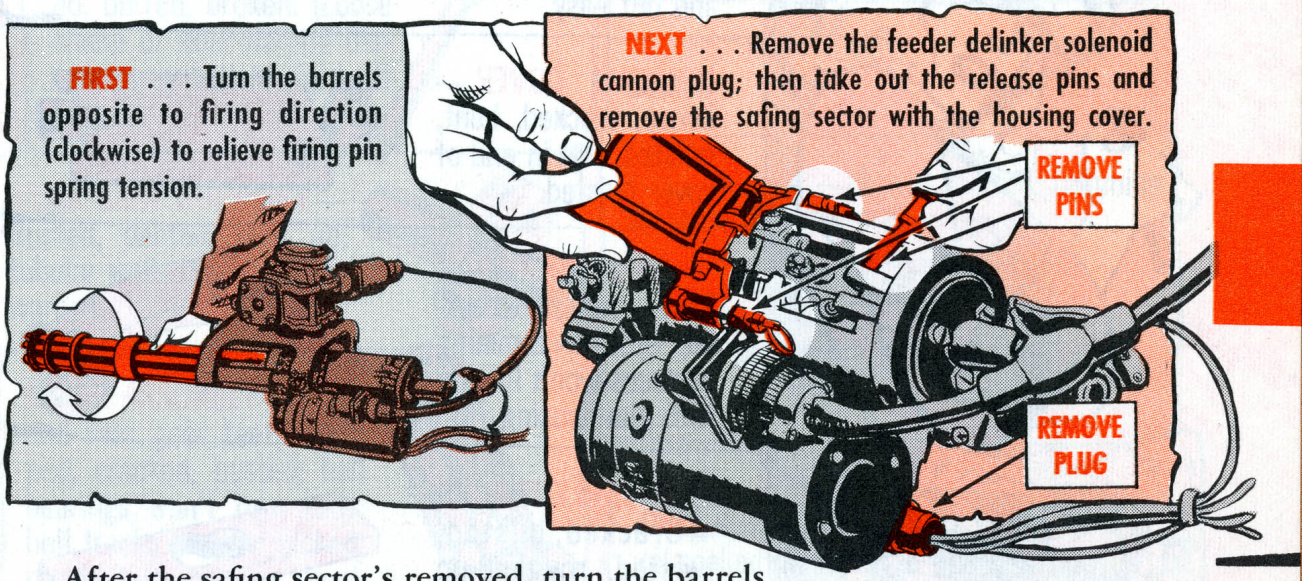


AFTER-MISSION CHECKLIST

Normally, if everything goes super-OK on the firing mission, all live rounds would be ejected before you land. But, because you can never be absolutely sure with Minnie — like if the delinking feeder is off or something — there just might be some hot leftovers in there. So, always assume the gun's ready to fire till the safing sector's removed. This means never walk in front of the weapon — and warn the others about it.

The safest way to get out of the Huey is to jump across the front of the gun and rockets — out of their line of fire — with your head down to avoid the rotor. Not easy, but it can be done!

First thing on landing, always remove the safing sector.



After the safing sector's removed, turn the barrels in the firing direction. The uncleared ammo will rotate through the gun, extract and eject without firing.

However, to make positive the gun is clear and no rounds remain in the chamber, pull each bolt back and eyeball the chamber when you rotate the barrels.

Now you can put the safing sector with housing back on and insert the safety rod in the hole in the gun support, if you want to.

However, if the gun is jammed, just remove the safing sector with housing cover and then remove the chuting and feeder, as needed. Finally, disassemble as much as you have to to clear the weapon.

FIELDSTRIPPING AND INSPECTING

Normally, you take Minnie apart and clean and lube 'er after every 20,000 rounds have been fired. But in Vietnam once a day, regardless, is a MUST.

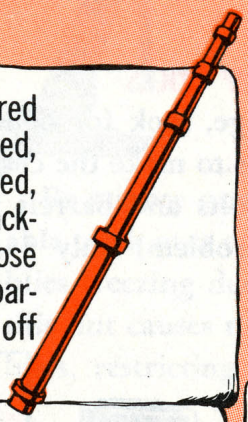
Remember, even though parts in all guns are interchangeable, it's not good policy to mix parts between 2 separate guns — even between right and left hand ones on the same chopper. One gun could get a lot more use than the other. Then you'd be putting worn parts in a new gun or new parts in an old gun — bad!

NEXT PAGE I'VE GOT A GUIDE TO DEFECTS YOU WANT TO LOOK FOR... FIX WHAT YOU CAN -- BUT HOLLER FOR HELP WHEN YOU CAN'T.

PS MORE

HERE'S THE FIELD STRIP CHECK LIST.
RELEASE PINS — Bent, cracked, won't go in and out easy.
HOUSING COVER — Loose, cracked, bent, twisted; slot in end of cover twisted.
SAFING SECTOR — Loose, nicked, cracked, broken; camming surfaces won't line up with gun housing.
REMOVABLE TRACKS —Cracked, busted, twisted, roughed-up edges.
BOLT ASSEMBLY — Needs lube; firing pin hole badly worn or elongated; extractor lip damaged or busted; pins and locking surfaces on bolt head worn or burred; track ways nicked, burred, scratched; spring cracked, weak, busted; striker badly worn, busted; firing pin tang worn, burred; roller on bolt assembly worn, damaged; spring pins bent, badly worn.
GUIDE BAR — Nicked, cracked, burred, bent.
BARREL CLAMP — Loose; spline nut threads worn, stripped, damaged; barrel rings or central shaft busted, cracked, twisted.

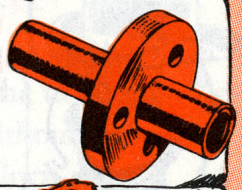
BARREL—Dirty, cluttered with junk; lands scored, badly worn; bore bulged, heat-warped; flange cracked, burred, broken. (Loose clamp or heat-warped barrels spray bullets right off target.)



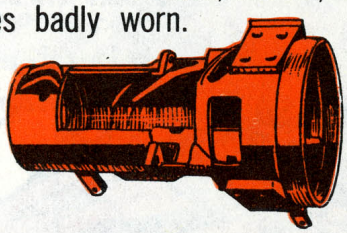
BEARING—Won't turn easy.

TIMING PIN—Bent, busted.

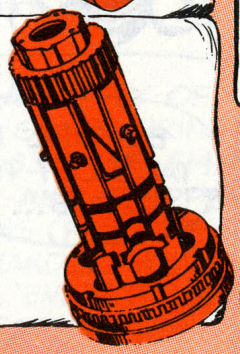
REAR GUN SUPPORT—Busted, dented, beat up; tubular walls cracked; face warped.



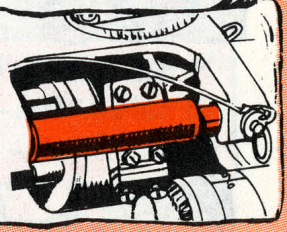
GUN HOUSING—Nicked, burred; camming surfaces badly worn.



ROTOR ASSEMBLY—Front and rear gear teeth chipped, cracked, busted; ball bearings won't turn easy; bolt tracks or rotor nicked, roughed-up; cocking shoulder surfaces badly worn.

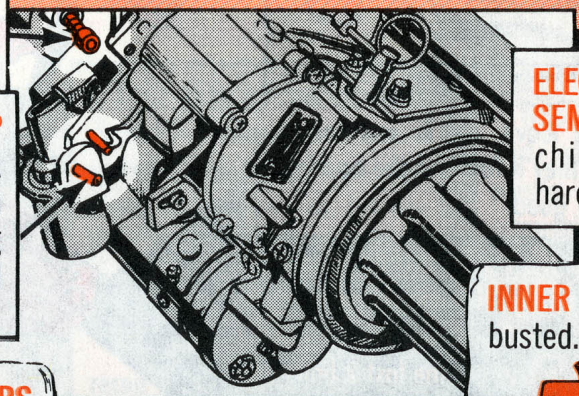


RECOIL ADAPTER—Dirty, dented, chipped, oil-soaked (**never** dip it in solvent).



TIMING PIN—Bent, busted; spring weak, broken.

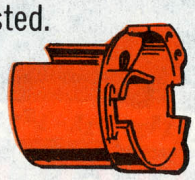
DELINKING FEEDER



CLEARING GUIDE STOP PINS—Bent, don't stick out about 5/16 inch from right side of housing like they're supposed to.

ELECTRIC DRIVE ASSEMBLY—Dented, chipped; mounting hardware loose.

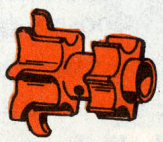
INNER CAM—Tang busted.



PUSH ROD ROLLERS—Need lube.

SOLENOID LINKAGE—Damaged, busted.

STRIPPER SLEEVE—Chewed up, burred, needs stoning.



FEEDER SPROCKET—Bent.

SPRING PINS—Bent.

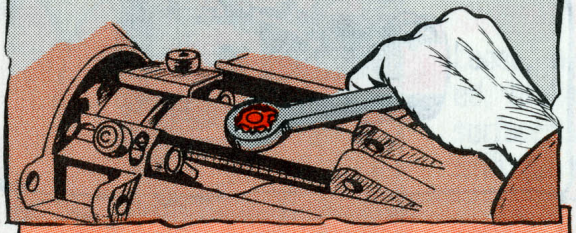
P.S. MORE

SLICK STRIP TRICKS

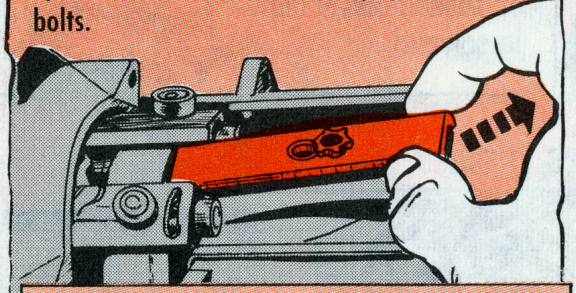
Remember, after every severe stoppage, look for bone-jolting developments inside your weapon. Here're some ideas to make the chore easier:

You can save time removing the 6 bolts and barrels from your weapon by loosening (or removing, if they're a problem) only 3 track nuts—if you're careful.

Here's how: Loosen the first track nut that comes up 2 turns, push the firing pin tang to the left, then push 2 bolts forward.



Now push the removable track forward, up and out. Then — immediately remove 2 bolts.

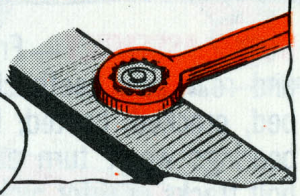


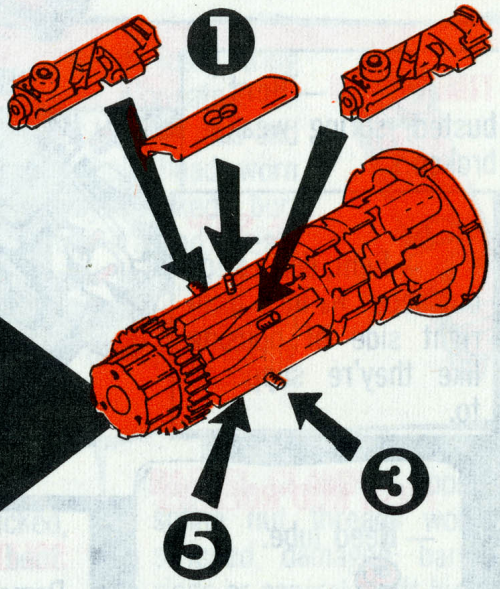
Important: If you leave 'em in and rotate the barrel cluster they'll fall into the housing and mess you up good!

Next, rotate the cluster till the third track nut comes up and go through the same gyrations to get the next 2 bolts out. Finally, get the fifth track nut up and get the last 2 bolts out.

BE SURE TO TAKE OUT THE BOLTS...

INCIDENTALLY... SOME GUYS STONE DOWN THE BOTTOM OF THEIR 7/16 BOX WRENCH (ABOUT 1/16 IN) TO GET A BETTER BITE ON THE TRACK NUT.





Remember, though, these track nuts are self-sealing. If you take 'em out, the sealing gets messed up and you must replace the nut. Keep a supply handy under FSN 5315-921-5126. Smart operators dab a spot of red paint on the 3 nuts they loosen (or the new ones they put in). This way, you can loosen or remove the same ones every time or you can alternate, removing the unpainted ones the second time around. Using 2 colors might help, too, to keep you from getting balled up.

SLICK STRIP TRICKS

Remember, after every severe stoppage, look for bone-jolting developments inside your weapon. Here're some ideas to make the chore easier:

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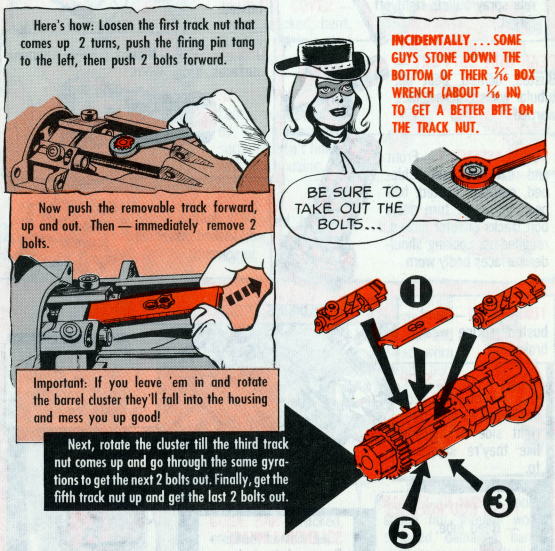

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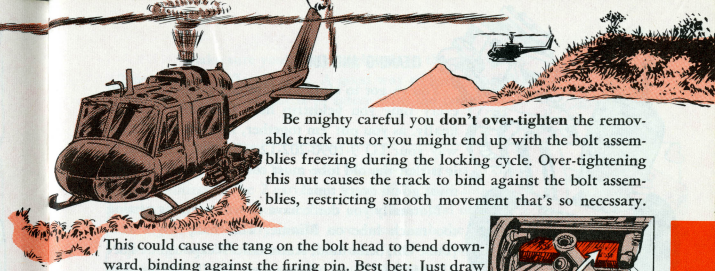

Be mighty careful you **don't over-tighten** the removable track nuts or you might end up with the bolt assemblies freezing during the locking cycle. Over-tightening this nut causes the track to bind against the bolt assemblies, restricting smooth movement that's so necessary.

This could cause the tang on the bolt head to bend downward, binding against the firing pin. Best bet: Just draw the nut down snug without using too much pressure. Then draw it 1/8 to 1/4 inch more.

Incidentally, never use the sprocket as a lever for your screwdriver to clear the feeder. You'll do a lot of damage. Instead, strip the feeder down the way you're supposed to.

HERE'RE SOME MORE TIPS:

When you're disassembling a lot of the parts, it'd pay you to put the screws part-way back. This way you won't Murphy 'em.

Most nuts on the gun are slotted for screwdriver removal or installation. OK, use a screwdriver to snug 'em up, but use your wrench for final tightening.

When stripping a stubborn part, always use a rubber or plastic hammer or a plastic screwdriver handle to force it in or out. Never use metal on metal!

Always remember this: In a redhot situation when time's scarce you can remove and exchange the barrels in a jiffy just by removing the clamp.

Whenever you replace the recoil adapter, always leave the 4 nuts just snug till the weapon's mounted on the Huey. This'll make it easier to install. But remember to **tighten 'em after it's installed.**

Having trouble with the soft countersunk head screw that holds the link ejection guide where the links come out? No sweat. Replace it with the harder countersunk screw . . . FSN 5305-937-4242 (11701219).

MORE

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TRACKS MUST BE INSTALLED WITH LETTERING TO REAR

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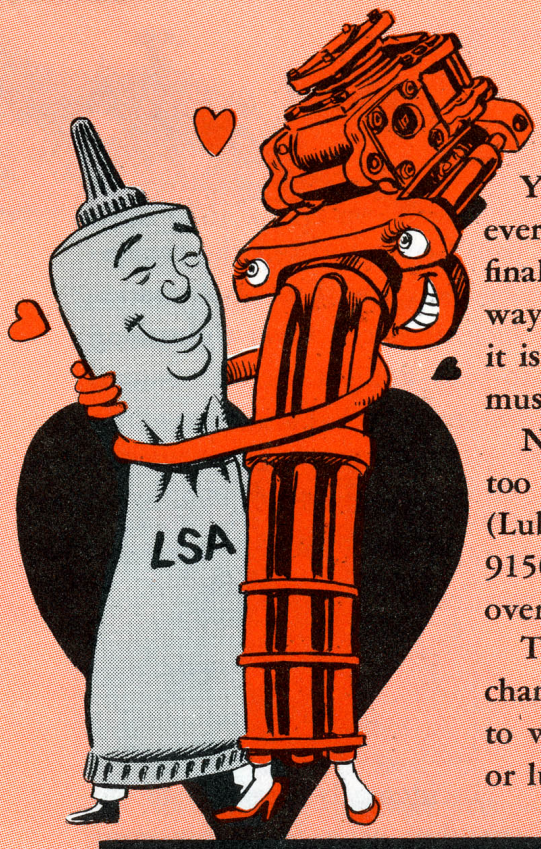
P.S. MORE



CLEANING AND LUBING

You've got to clean all Minnie's parts real good every time you fieldstrip her. Then dry 'em and finally, as you put 'em together, lube every part the way your LO 9-1090-202-12 tells you. The gist of it is that the old lube must come off and fresh lube must go on every time!

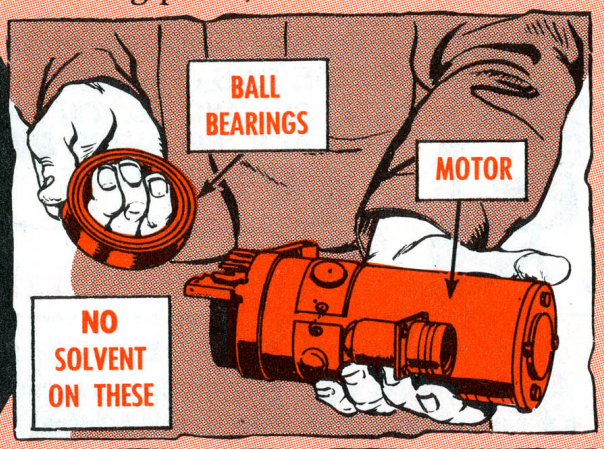
Normally you don't have to worry about getting too much lube on Minnie. This baby loves LSA (Lube Oil, Semi-fluid, Automatic Weapons . . . FSN 9150-889-3522 . . . 4-oz tube). She'll spit out any over-dose you feed her.

This High Rate Gun has electrical drive but mechanized gears and no gas system, so you don't have to worry too much about getting cleaning solvent or lube in the wrong places, either.

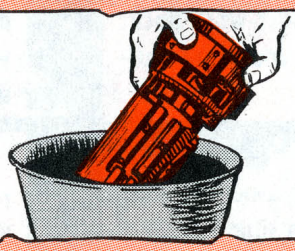
BUT, here's a couple tips to keep you straight:

Never get cleaning solvent on the roller bearings and the electric drive motor. Just wipe 'em off with a clean dry cloth.

YOU DON'T HAVE TO REMOVE THE BEARING WHEN FIELDSTRIPPING AND CLEANING THE ROTOR. JUST HOLD THE BEARING END UP AND BRUSH THE BODY WITH SOLVENT.

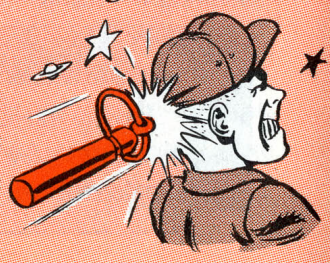


Just don't forget when you're starting to dip the delinking feeder in solvent that the solenoid and bearings should **never** get dunked in solvent—nor any other cleaning solution, either!



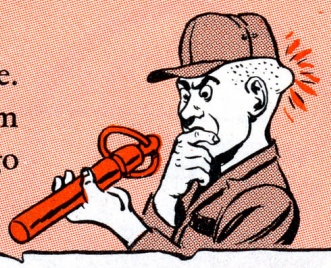
ODDS AND ENDS

QUICK RELEASE PINS — You've got 8 pins you want to be real choosy about — 2 on the delinking feeder, 2 on the safing sector, 2 on the housing cover and 2 that mount the gun to the pylon.

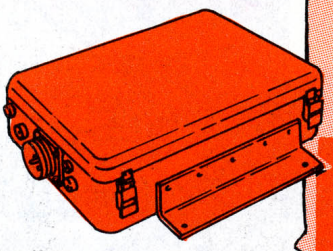


FIRST, make sure these pins work OK. Be certain you have to depress the plunger on the end of the pin to remove the pin. Replace any pin that comes out without pressing the plunger.

SECOND, make sure you use the right pin in the right place. They come in different sizes. A good way to keep 'em from getting mixed up or lost is to safety wire the ones that go together.

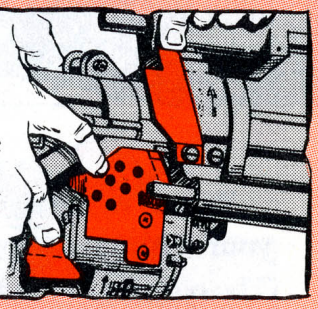


GUN CONTROL BOX—Your only business in here is to check the condition of the 2 cartridge fuses (FSN 5920-280-8342) and to see that the 5 connections at the front end of the box are tight. Incidentally, you'll save sweat with the cover by opening the back latches first to take it off and putting the back latches on first to put the cover back on.



PILOT SIGHT—Never slam it up for stowage—you'll bust the bulb filaments. And, remember, the elevation knob's only to be used for boresighting. Otherwise, hands off.

SHIELDS — Make sure these are OK and firmly attached. These shields keep brass and links from the system and the door gunners' weapons from entering the gun and feed systems.



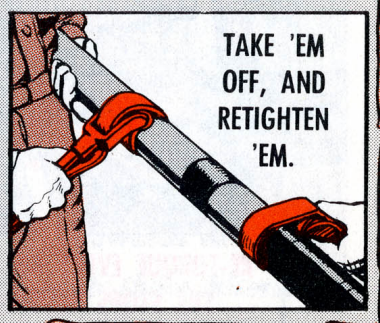
PUBS—Here's the ones you need and better have: TM 9-1005-265-15 (15 Sep 65); TM 9-1005-265-15P (15 Sep 65)—both on the GAU-2B/A Gun; and TM 9-1090-202-12 (May 66) with Ch 1 (8 May 67)—on the XM21 subsystem as a unit.

THE ROCKET SYSTEM

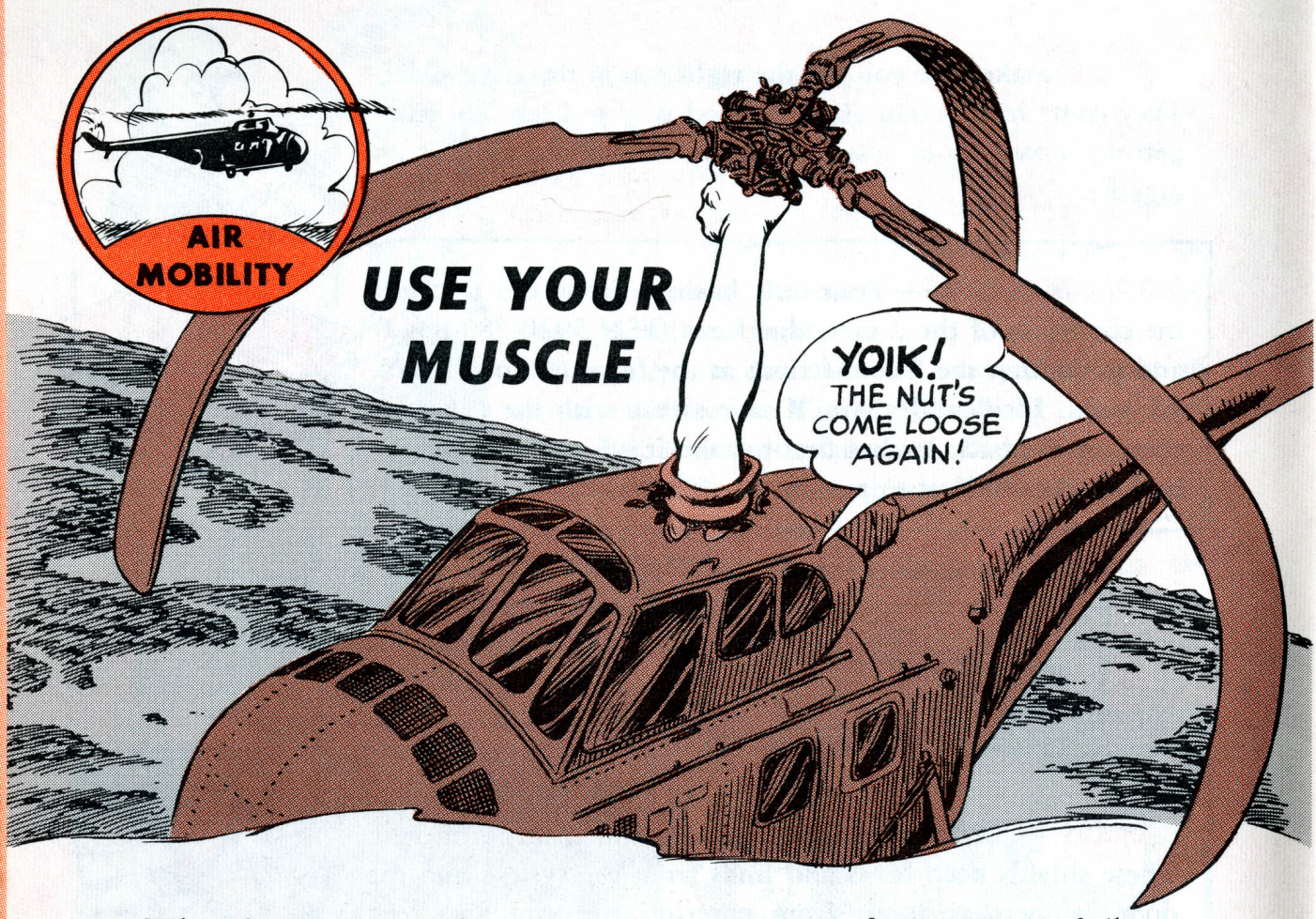
As was said back there in the beginning, the 2.75-in rocket and XM158 launcher that make up the second big half of this subsystem are exactly the same as the ones on the XM16 subsystem.

So, nothing new to add here except this one tip:

Any time your mission calls for taking off with the same FFAR's you brought in from the last trip, be almighty sure you check that the warhead's are real tight. Take 'em off, and re-tighten 'em—every danged one, too. Experience shows that they can work loose.

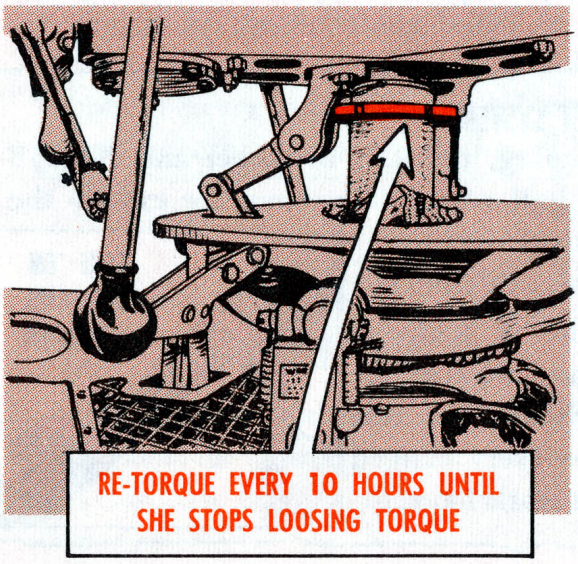


PS END



When it comes to maintenance on your Chickasaw pull it by the book. The old girl needs as much attention—maybe more—than a factory-fresh job.

Talking about the main rotor lower retaining nut, P/N S10-10-1443, that gets re-torqued to 100-150 ft-lbs as called for in TM 55-1520-201-20PMI.


RE-TORQUE EVERY 10 HOURS UNTIL SHE STOPS LOOSING TORQUE

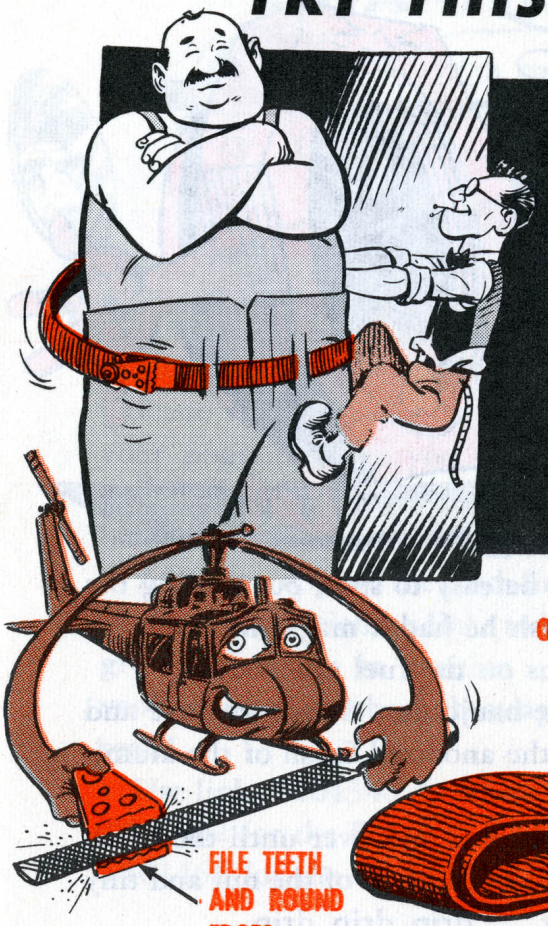
This baby has a habit of losing torque and snapping the safety wire . . . 'taint a healthy situation if she blows her top!

Torque loss is more apt to happen after a main rotor assembly change . . . which is the reason why a special inspection is called for in Chap 3, Sect II, page 2-6 of TM 55-1520-201-20 (15 Apr 64).

After the first hour of operation and after an additional 10 hours, re-torque the nut with wrench, P/N S14-50-4199-6. Make with the muscle in 10-hr intervals until you notice no more torque loss.

From then on give the old girl the 25-hr beauty treatment, you betcha.

TRY THIS TOOL FOR SIZE



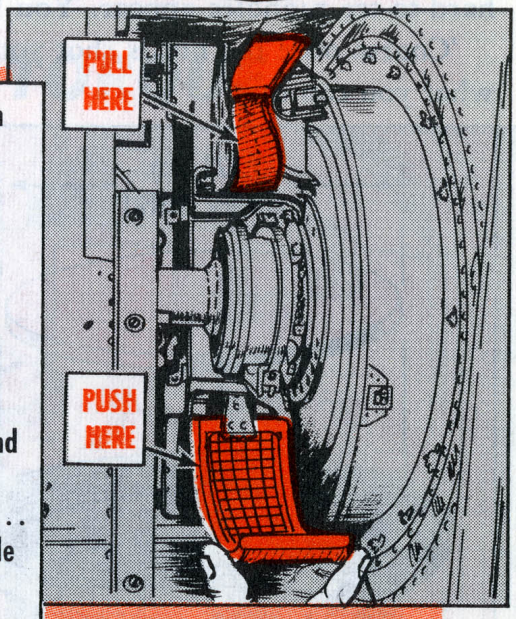
Dear Editor,

Taking out the Huey (UH-1) T-53 engine intake filter time and time again for cleaning can present a problem. After awhile, shoving the filter into the sand and dust separator mount bends it out of shape.

This distortion may possibly affect the efficiency of the filter. But one thing's for real — a beat-up filter definitely makes installation more difficult.

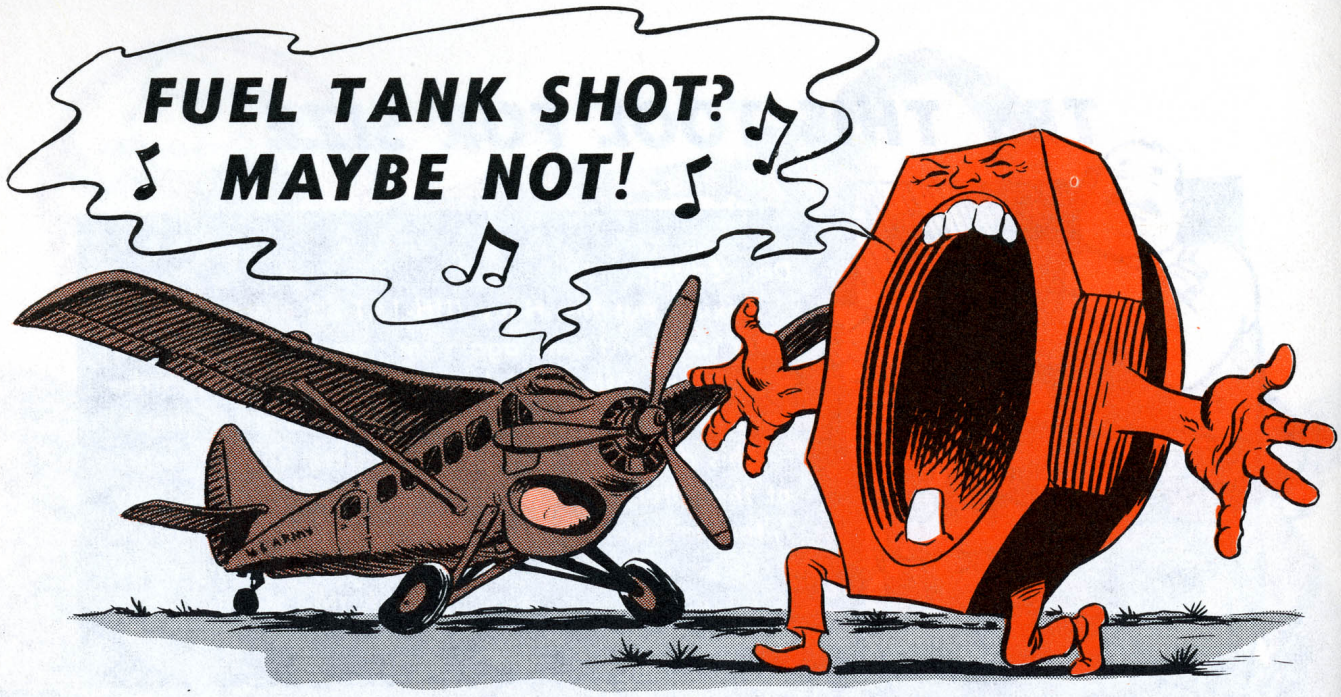
To save the filters and make the installing chore a lot easier, we came up with this locally made installing tool.

Next, we attach the tool clamp to one end of the filter. By gently pushing on the filter with one hand while at the same time pulling on the tool strap with the other hand the filter slides neatly into place . . . no sweat! This little baby works like a charm.



Mr. Thomas R. Kenngott
Edwards AFB, Cal.

(Ed Note—Good show! Looks like a neat little trick to keep those filters in tip-top shape.)



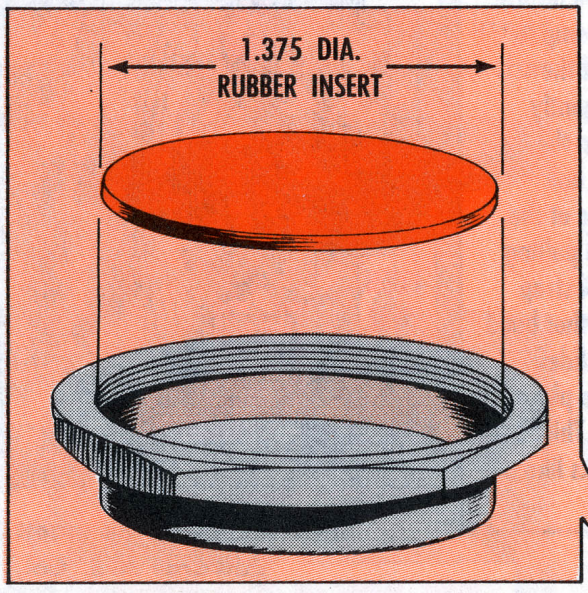
A fuel tank leak in your Otter (U-1A) may be easy to spot, but finding the source can sometimes make a wrench puller wish he had a magic locator.

But before you decide to yank the tank, focus on the fuel tank outlet.

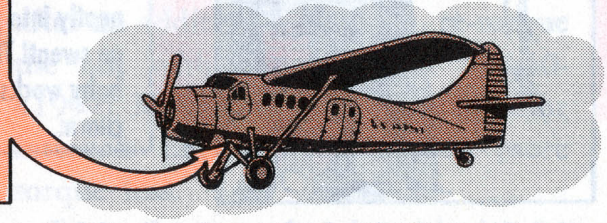
Inside the outlet a metal strainer rests on the banjo nut. As you remove and replace the strainer for cleaning, it grinds into the anodized finish of the aluminum nut—that's the rub.

Old Reliable goes through this twist-o-nut bit over and over until the finish is finally gone. Then corrosion sets a-breeding in the bottom of the nut and tiny hard-to-see pinholes appear. You know the rest . . . drip, drip, drip.

'Course once the nut is shot you replace it. But to protect a good nut here's what you can do.

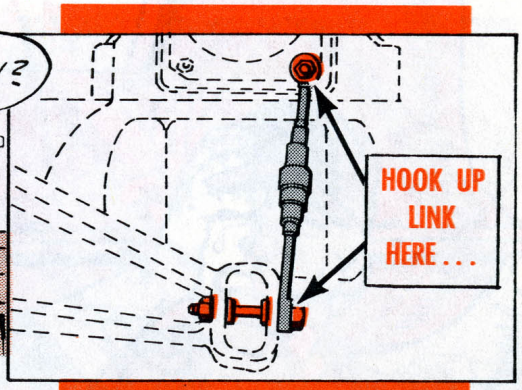


Cut a small piece of rubber to a diameter of 1.375-in and insert it in the bottom of the banjo nut. This acts as a buffer or insulator. Not just any rubber will do. You want to use a piece from 0.125-in thick rubber sheet, FSN 9320-241-9746, MIL-R-6855, Class I, fuel resistant. You'll find it listed in Fed Cat C9300-IL-A-CB5 (1 Apr 67).



Preventing a leak before it starts—that's the kind of PM that'll keep Old Reliable going . . . and going . . . and going . . . .

AHA--THE MISSING LINK!

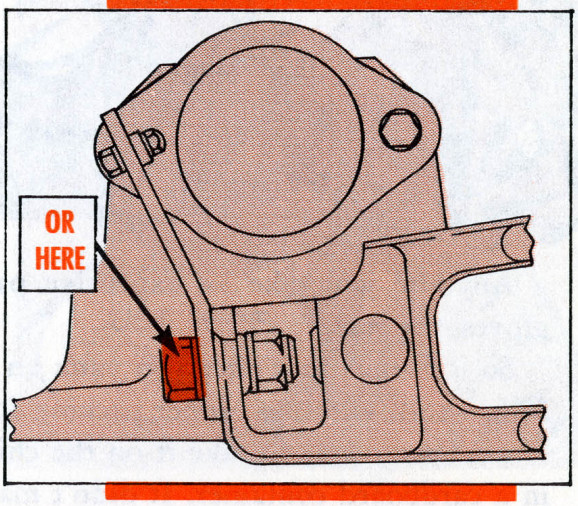


Hold one!

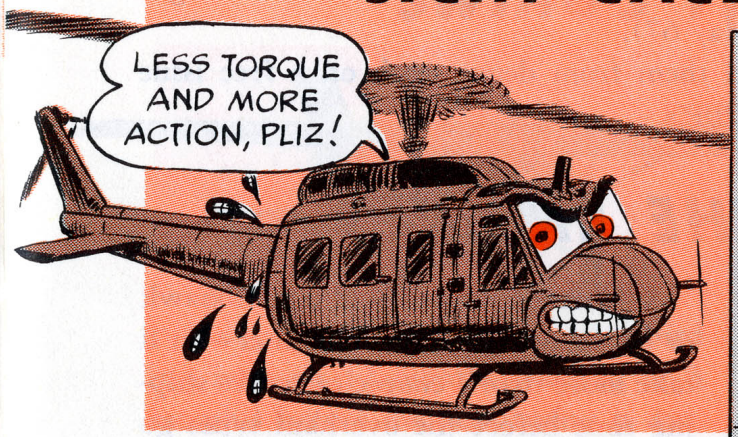
Paste this reminder in the back of your noggin before you heave-ho on your Huey (UH-1) main rotor hub and blade assembly.

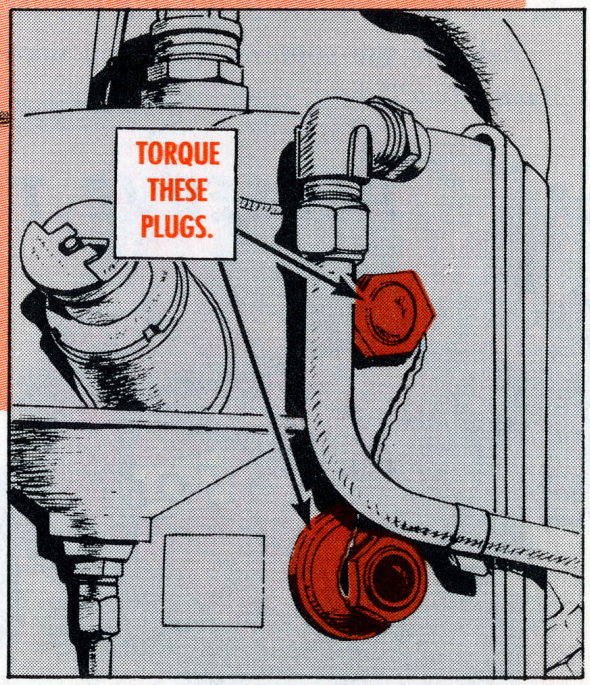
After you remove the pitch links, put in the grip-positioning links to hold the grips and blades in position . . . prevents damage to the hub straps—for real!!

Use link, T101348, for the A Model, T101402 for the B and D Models, and T101466 for the C Model.



SIGHT GAGE TORQUE





Just in case somebody should ask—or a leak develop—the torque value on your Huey (UH-1D) engine oil—tank sight plugs is 150-175-in lb for the big one and 100-125-in lb for the little one.

CAN IT, MAN!

Anytime you take an expensive part off your bird you handle it with kid gloves, for real.

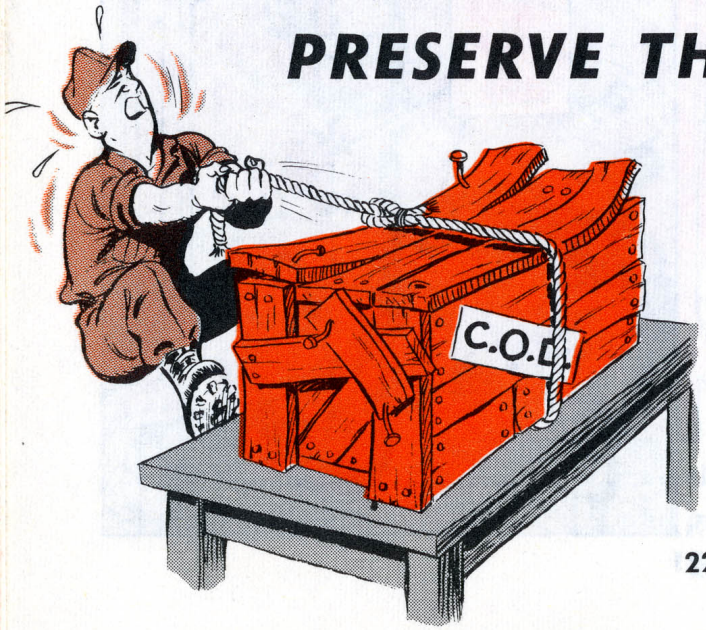
So it figures that once you yank an engine, rotor blade or such, you want to follow thru with the proper packing for that bumpy trip to the depot—or else!

The latest part to take it on the chin was a Chinook (CH-47) APU shipped in a cardboard container. It didn't make the trip in one piece!!

What a difference the right metal shipping container makes . . . no busted parts. The Chinook APU container, FSN 8115-947-6227, is authorized right in TM 55-1520-209-20P-1 and P-2 (May 67).

Ask for the containers as you need them from depot stock on a free issue basis. You'll find 'em listed in your -20P's.

PRESERVE THE ENGINES



Whenever you pull a Huey, Mohawk or Chinook engine, remember—it'll take more than a couple of weeks shiping time before the overhaul types go to work on it. Engine parts corrode fast!! So, follow the temporary storage poop . . . para 16-13 in TM 55-1520-210-20 Ch 10 (Apr 67) for the T-53 and para 16-11 in TM 55-1520-209-20 (Apr 67) for the T-55.

ONCE OVER LIGHTLY, PLEASE!

With all the hydraulics in your Chinook (CH-47), a wiping rag comes in mighty handy. In many cases a seep is not a leak . . . no repairs needed.

Take relief valve, P/N 1A050, in the utility system oil cooler.

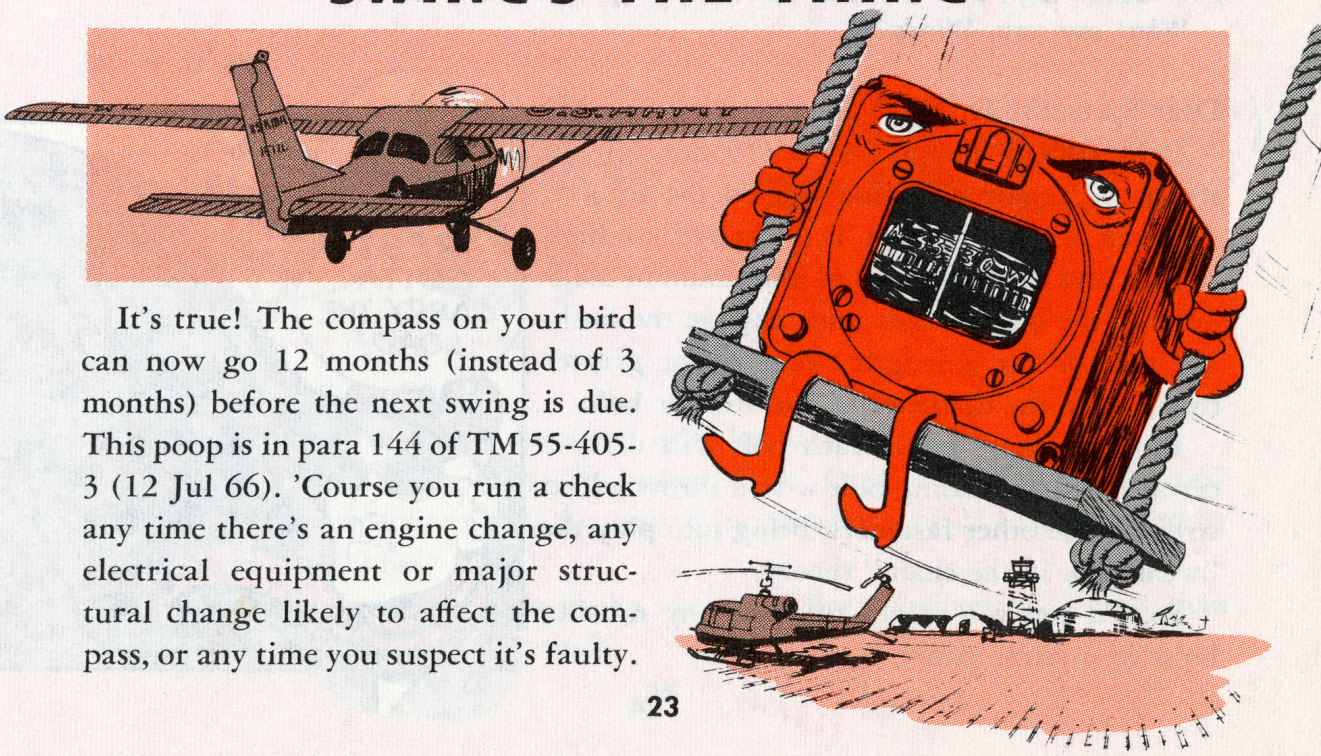
Say you spot hydraulic fluid at the breather hole. The hole is there to prevent a hydraulic lock in the valve. It also serves as a lock-wire hole.

Does this seepage mean the valve is shot? Certainly not!

Here's what happens. Hydraulic fluid seal seepage gathers in the bottom of the valve. When the valve operates, the increased pressure in the spring chamber causes fluid to spurt out of the valve hole.

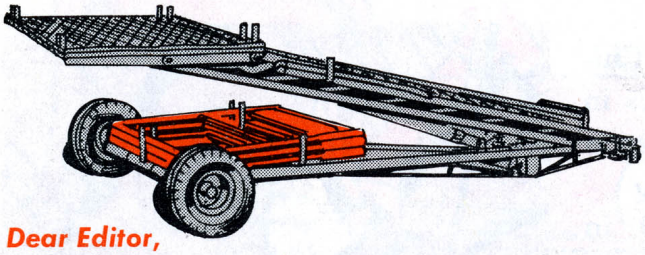
A new valve won't help the situation . . . but a little wiping will.

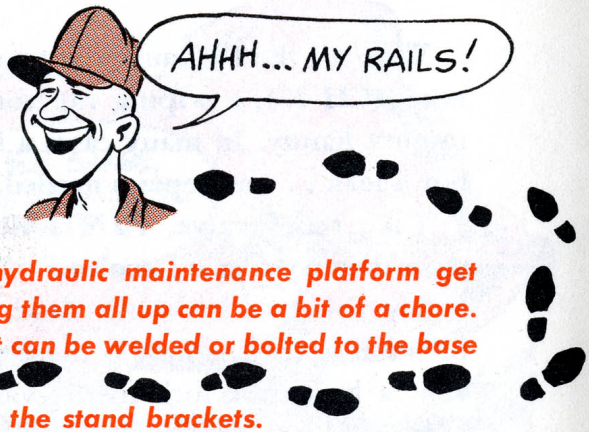
SWING'S THE THING



It's true! The compass on your bird can now go 12 months (instead of 3 months) before the next swing is due. This poop is in para 144 of TM 55-405-3 (12 Jul 66). 'Course you run a check any time there's an engine change, any electrical equipment or major structural change likely to affect the compass, or any time you suspect it's faulty.

HAND RAIL STORAGE SAVES STEPS





Dear Editor,

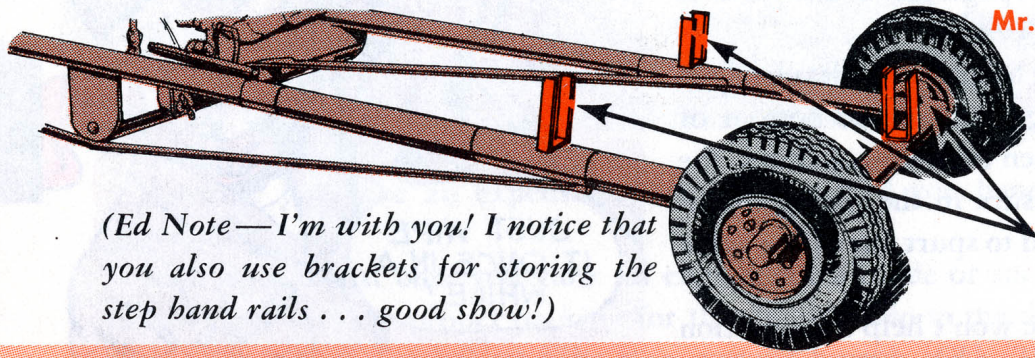
There are times when the hand rails for the hydraulic maintenance platform get scattered to the four corners of a hangar. Rounding them all up can be a bit of a chore.

We came up with three U-shaped brackets that can be welded or bolted to the base of the stand.

Now we store the three platform hand rails in the stand brackets.

No more looking high and low for the hand rails—they're kept right with each unit.

Mr. Alfred Morgan
Fort Eustis, Va.



(Ed Note—I'm with you! I notice that you also use brackets for storing the step hand rails . . . good show!)

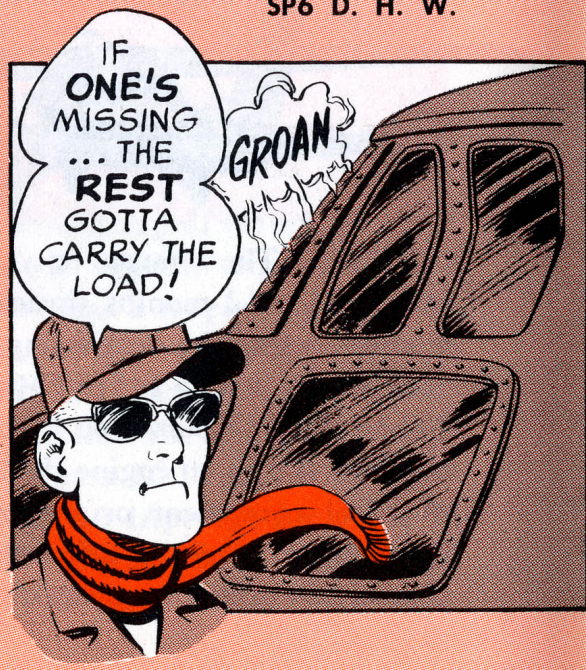
NO WEAK LINKS, PLEASE

Dear Windy,

Just how many missing studs or bolts are allowed on an aircraft stress panel? I've looked high and low and can't come up with the answer.

What say you, Windy?

SP6 D. H. W.



Dear Specialist D. H. W.,

Para 42b in TM 55-405-4 (19 Sep 66) on structural repair will clue you on the subject.

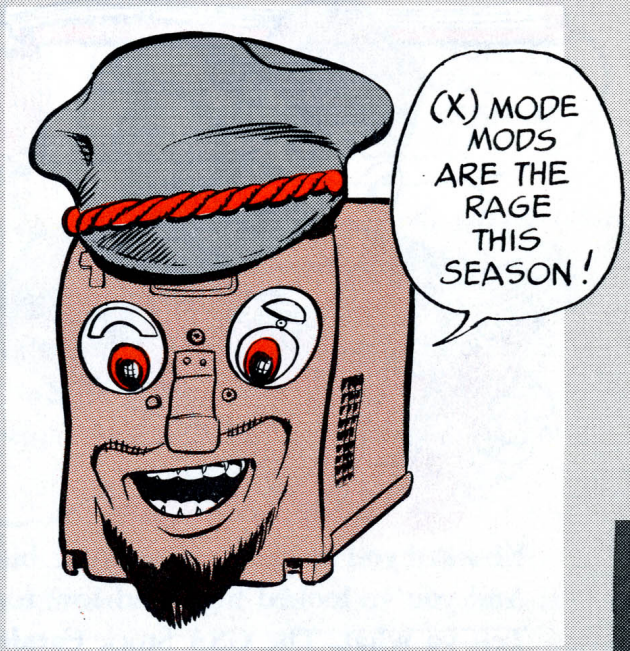
When a stud or bolt is subjected to high stresses and the bushing is in aluminum or magnesium, the bolt threads must engage the bushing threads for a length equal to, or greater than, twice the diameter of the stud or bolt.

Bird designers figure each bolt will carry a certain load. A missing bolt would throw added stress on the other fasteners, bring into play the "weak link in the chain" theory.

So, I'd say you're not allowed any missing bolts in a stress panel.

Windy

(X) MODE FOR ALL ARC-54's



What's in a number? Plenty — when it comes to providing (X) mode operation for your bird's RT-348/ARC-54.

MWO 11-5821-244-30/2 (12 Sep 66) with Ch 1 (1 Mar 67) has a listing of serial numbered radios that are to be modified, but it's not complete . . . that's the rub.

If your ARC-54 is not listed, crack a copy of DA Circular 750-18 (23 Feb 67). This up-to-date MWO index lists the serial numbers affected for all of Uncle's equipment.

Page 200 shows that the (X) mode goes on all ARC-54's.

'Course the bird log book, DA Form 2408-5, and the decal on front of the set should show if the mode mod was done. To double-check, take the cover off your RT-248 and have a look-see for a decal on the Transmit Audio which says the MWO is incorporated.

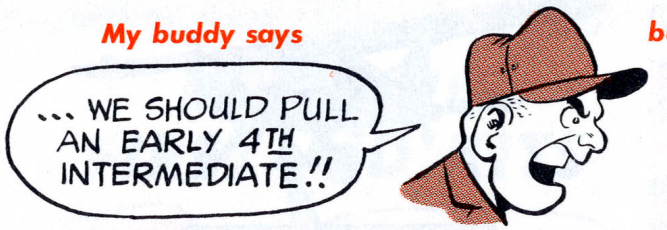
No decal? Schedule it . . . soonest.

BIRD TRANSFER CHECK

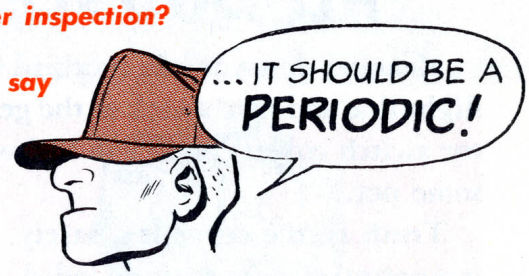
Dear Windy,

Can you settle a dispute on an aircraft transfer inspection?

My buddy says



but I say



Before we come to blows what say you, Windy?

SP5 T. O. D.

Dear Specialist T. O. D.,

Tell your buddy to toss in the towel — he loses.

There is no such thing as a 4th Intermediate. Para 4 of TB AVN 23-67 (11 Feb 65) on inspections calls for only 3 Intermediates of 25-hrs, followed by the Periodic at 100-hrs.

Your transfer inspection can be an early 3rd Intermediate or, if less than 25-hrs to the PMP, an early Periodic.

Windy

IN A BIND FOR BINDERS?

You say you're hurting for some binders for your aircraft pubs?

And you've looked high and low for a supply catalog that lists them?

Tell ya what. The GSA Stock Catalog in your supply room lists all kinds of office supplies, including the binders.

There're several types to choose from . . . you pays your money and takes your choice.

One popular binder is the black, 2-in capacity, 3-ring type with metal hinges. It holds standard 11 x 8½-in pubs, carries FSN 7510-579-2751 and lists for $1.05.

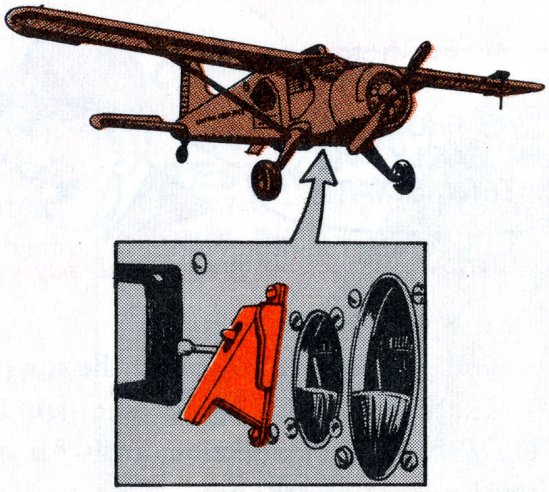
Your authority for requisitioning could read like so — needed for binding Army aircraft maintenance publications.

NO DOUBLE SAFETY NEEDED

Meander down any Beaverbird (U-6) flight line and take a look at the generator switch covers. Some are lockwired, some not.

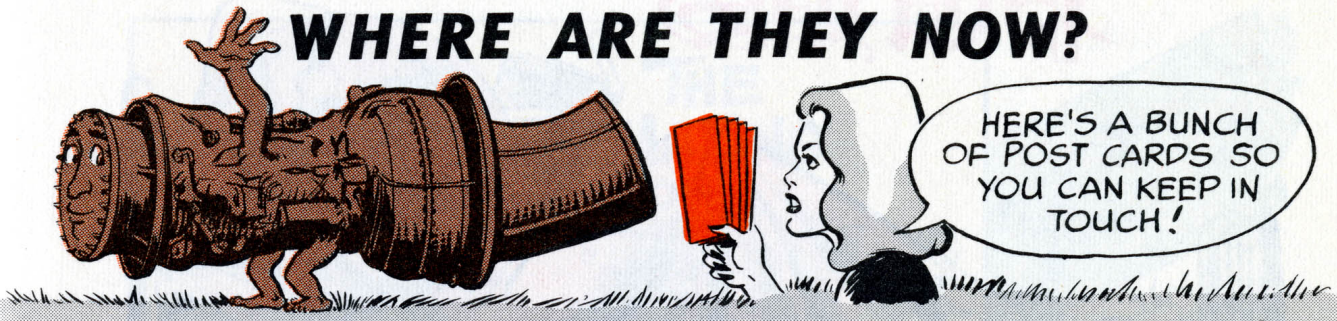
Truth is, the cover is a safety. That mousetrap-strong spring-loaded cover is snappy enough to resist a stray flip of the fingers.

Remember — when you're trouble shooting the direct current system, according to para 12-12 of TM 55-1510-203-20 (Aug 65), the generator is switched ON and OFF for various checks.



No sense making extra work for yourself by lockwiring the safety.

WHERE ARE THEY NOW?

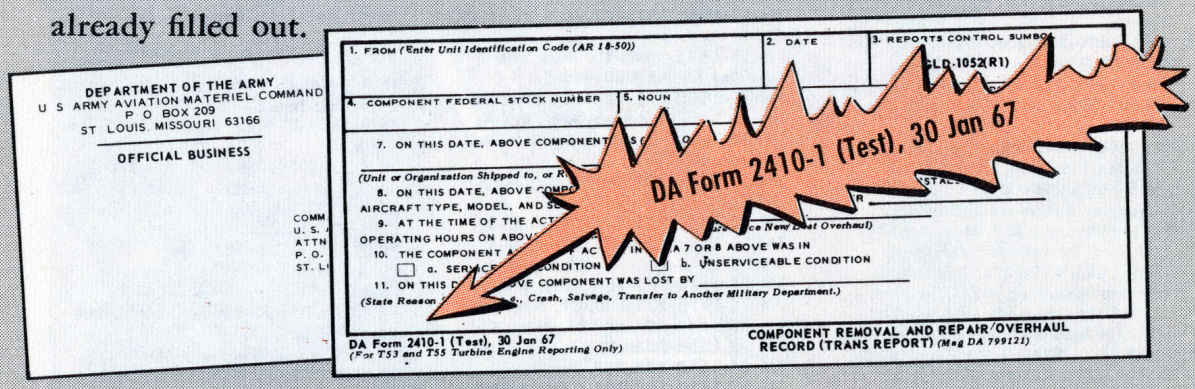


. . . That's what the topside supply types need to know about the T-53 and T-55 engines that come and go in your outfit.

These Huey, Mohawk and Chinook engines are the first components to come under the new Aviation Component Intensive Management System (ACIMS). The idea is to keep track of costly components from the day they enter the supply system until they're condemned.

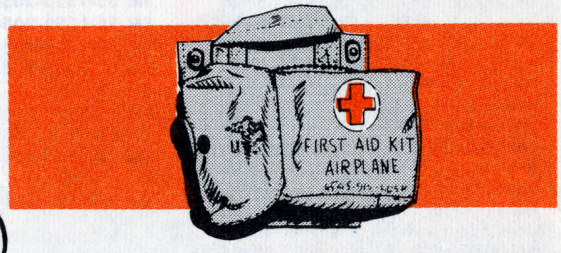
Here's all you air types do.

An initial supply of DA Form 2410-1 (test) pre-addressed post cards has been issued and additional forms are available from AVCOM. Most of the card is already filled out.



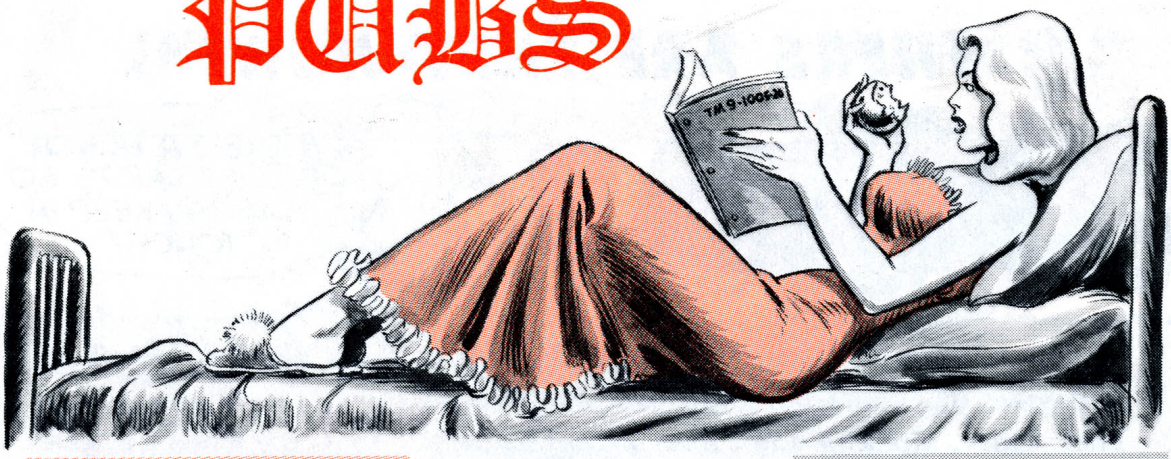
Just "X" the proper blocks. Enter your unit identification code, list the component hours, fill in the "received from" or "shipped to" line and mail it . . . that's all there is to it!

MARKING FIRST AID KITS



Change 2 (4 Oct 66) to TB AVN 10 has the straight dope on marking the first aid kits in your birds with a red cross on a white background and adding the words "First Aid Kit Airplane". Conflicting info in TM 55-405-3, para 151, is being changed.

PUBS



A selected list of recent publications of interest to Organizational Maintenance Personnel. This is a list compiled from recent Adjutant General's Distribution Center Bulletins. For complete details see DA Pam 310-4 and Ch 5 (10 Feb 67) and DA Pam 310-6 and Ch 3 (Apr 67).

TECHNICAL MANUALS

TM 5-2805-254-13, May, Marine System.
TM 5-4320-237-25P, May, Pump, Cent: GED, 50 GPM, Barnes 28002.
TM 9-1005-223-20, May, M14, M14A1 Rifles, 7.62MM, Bipod, M2 Rifle.
TM 9-1005-233-25, May, 7.62MM-M73 Machine Gun.
TM 9-1005-298-12, May, XM27E1 Helicopter Armament Subsystem.
TM 9-1005-298-20P, May, XM27E1 Helicopter Armament Subsystem.
TM 9-1015-215-12, C1, Jun, M30 4.2 Inch Mortar on M24A1 Mount.
TM 9-1015-221-ESC, May, M40A1 106-MM Recoiless Rifles on M79 Mount.
TM 9-1015-234-12, C3, May, M102 105-MM Towed Howitzer.
TM 9-1055-217-12P, Jun, 2.75 Inch Rocket-Launcher XM3.
TM 9-1340-202-12, Apr, Honest John.
TM 9-1430-250-15P/10/1, Apr, Nike-Herc Imp.
TM 9-1430-513-12/1, Jun, Hawk.
TM 9-2320-211-10, C6, May, 5-Ton Truck, M41, M54, M55, M39, M40, M61, M63, M139C, M139D, M51, M52, M292/M292A1 and M543.
TM 9-2320-246-10, Apr, M274 ½-Ton Platform Utility Truck.
TM 9-6920-425-14, C1, Jun, Redeye.
TM 11-5820-498-12, May, Radio Sets AN/VRC-53, AN/GRC-125, Amplifier-Power Supply Group OA-3633/GRC.
TM 11-5820-696-15, Jun, Communications Facility Mobil AN/MRC-119, AN/MRC-120.
TM 11-5820-700-15, May, Amplifier-Power Supply Group OA-7806/FRC-56A(V) and Electron Tube Liquid Cooler HD-661/FRC-39A(V).
TM 11-5840-298-12, Jun, Radar Set AN/PPS-5.
TM 11-5840-298-ESC, Jun, Radar Set AN/PPS-5.
TM 11-6140-214-15, May, Storage Battery, BB-622/U, Battery Box CY-3871/PPS-5.
TM 11-6625-315-15, May, Radar OA-2228/TPS-25, OA-2228A/TPS-25 Test Set Groups.
TM 11-6625-450-15, May, TS-183/U, TS-183A/U, TS-183/B Battery Testers.
TM 11-6625-628-25P, Jul, Test Set, Radiofrequency, Power AN/URM-167.
TM 11-6625-1514-15, May, H-P Vacuum Tube Voltmeter.
TM 11-6625-1515-15, May, Frequency Converter, H-P 5253B.
TM 11-6625-1575-15, May, 612A UHF Signal Generator.
TM 11-6625-1683-15, May, Test Facilities Kit MK-980/PPS-5.
TM 11-6660-218-12, May, Meteorological Station Manual AN/TMQ-4.
TM 38-750, May, Army Equip Record Procedures.
TM 55-1510-201-20PMI, C1, May, U-8.
TM 55-1510-201-20, C2, Jul, U-8.
TM 55-1510-202-20, C5, Jul, O-1.
TM 55-1510-203-20, C3, Jun, U-6.
TM 55-1510-203-20P, May, U-6.
TM 55-1510-203-20P, C1, Jun, U-6.
TM 55-1510-204-20, C1, May, OV-1.
TM 55-1510-205-20, C3, Jun, U-1.
TM 55-1510-205-20P, Jun, U-1.
TM 55-1510-205-20P, C1, Jun, U-1.
TM 55-1520-201-20, C8, Jun, UH-19.
TM 55-1520-202-20, C3, C4, Jul, CH-34.
TM 55-1520-204-20, C3, Jul, OH-13.
TM 55-1520-205-20, C4, Jun, CH-21.
TM 55-1520-205-20, C5, Jul, CH-21.
TM 55-1520-205-20PMD, Jun, CH-21.
TM 55-1520-209-20, C3, Jul, CH-47.
TM 55-1520-209-20P-1, C1, Jul, CH-47.
TM 55-1520-210-20P-2, C1, Jun, UH-1A-1B-1C-1D.
TM 55-1520-211-10, C1, Jun, UH-1A-1B.
TM 55-1520-214-20, C3, Jul, OH-6.

MODIFICATION WORK ORDER

MWO 5-2410-209-25/1, C2, Jun, Tractor, Allis-Chalmers HD16M, Install Guide Plates on Dozer Push Beams.
MWO 5-3805-231-30/1, Jul, Scraper, Earthmoving, Towed; 18 Cu Yd Euclid 58SH-G Install Ejector Stop, Brace Hose; Modify Apron.
MWO 5-6100-201-20/1, May, Gen Set: GED, 10KW, 60 Cyc, Mil Design SF-10-MD Install Shroud on Generator Stator Frame.
MWO 9-2300-293-20, Jul, M60, M60A1 tank, M728 Combat Engr Vehicle, M60A1 Launcher Bridge, Tank Chassis, and M48A3 tank.
MWO 9-2320-211-20/9, May, 5-Ton Truck, M54, M55, M61, M63, M139C, M139D, M51, M52, M62.
MWO 55-1520-209-34/124, Jun, CH-47.
MWO 55-1520-209-34/125, Jun, CH-47.
MWO 55-1520-209-40/8, Jul, CH-47.

TECHNICAL BULLETINS

TB 9-1400-250-24/1, Jun, Nike-Herc, Nike-Herc Imp.
TB 9-2300-295-15, Jun, M151 ¼-Ton Truck.
TB 9-2300-295-15/1, Jun, M37B1 ¾-Ton Cargo Truck.
TB 9-2300-295-15/2, Jun, ¾-Ton Cargo Trk M37B1.
TB 55-1500-200-30/1, Jun, UH-1A-1B-1C-1D.
TB 55-1510-202-30/1, Jul, O-1.
TB 55-6650-300-15, Jun, Fixed and Rotor Wing.
TB 750-992-2, C1, Jun, Rotor Wing.
TB 750-992-2, C2, C3, C4, C5, Jul, Rotor Wing.

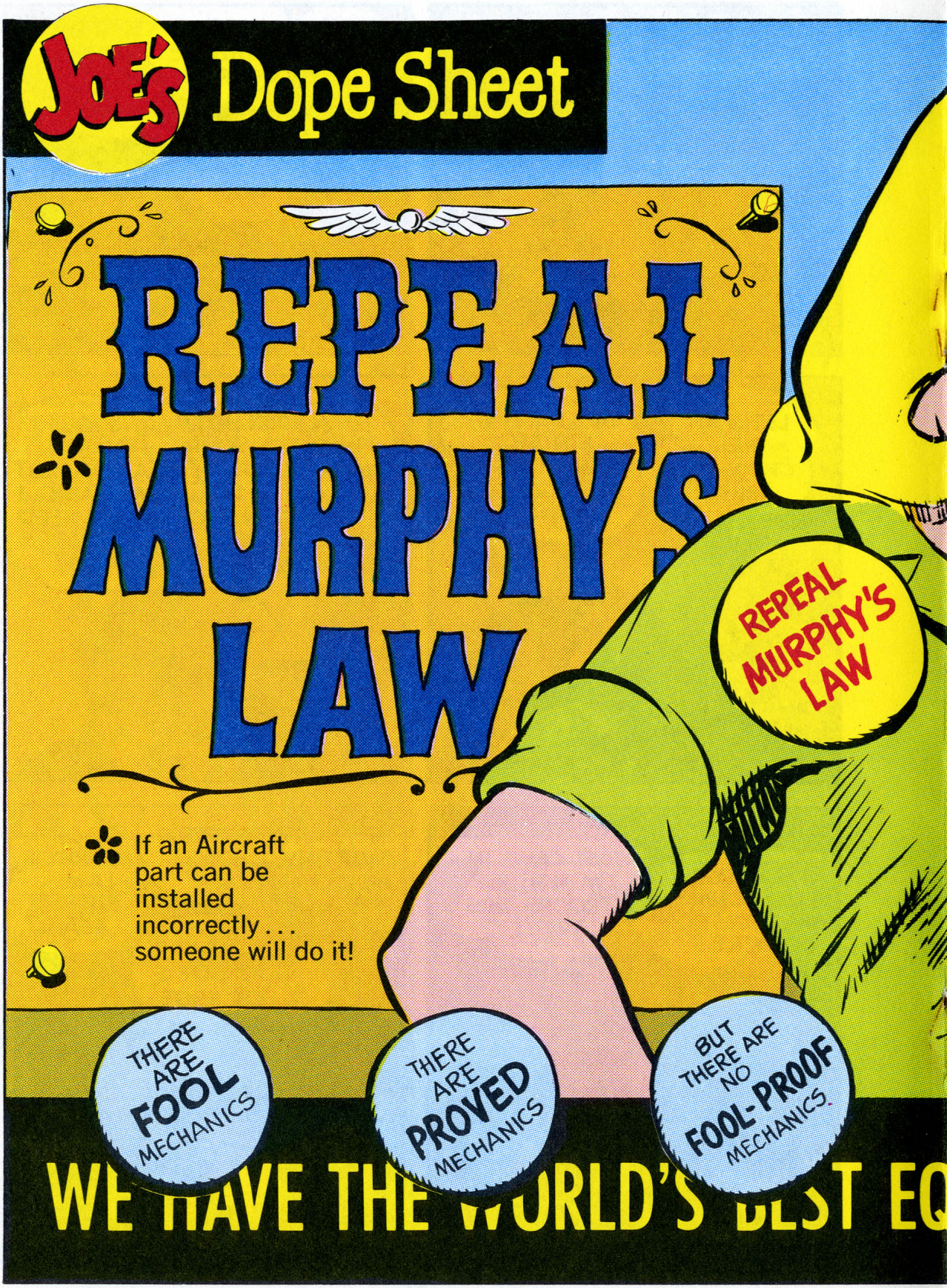
MISCELLANEOUS

DA Circular 95-12, Jun, UH-1A-1B.
LO 5-2420-213-12-1, -2, Jun, Tractor, Whld, DED, Cat 830MB.
LO 5-2420-213-12-3, Jun, Tractor, Whld, Ind DED Cat 830MB W/Cat Eng D343T/A.
LO 5-3895-219-20-1, -2, -3, May, Mixer, Concrete, Trailer Mtd: GED Construction Machinery 16 SM W/Eng Continental YS116 or Wisconsin Eng MVF4D.
LO 5-3895-280-15-1, -3, May, Mixer Tiller: DED, Rex Chainbelt HDTM.
LO 5-4320-237-15, May, Pumping Assy, Flammable Liquid, Cent, 50 GPM, Barnes QM-2-28002, W/Wisconsin Eng MBKND.
LO 5-4940-216-12, May, Shop Equip, Org Repair, Light, Trk Mtd on 5-Ton M63A2 Chassis, Southwest Truck Body Searl.
LO 9-1005-298-12, Jun, Helicopter Armament Subsystem XM27E1.
LO 9-2320-246-12, May, M274 ½-Ton Platform Utility Truck.
SB 700-20, May, Revision of SB 700-20 (31 Jan 67).

JOE'S DOPE
THE MAKING OF A 'PRO'
HERE COMES OUR NEW REPLACEMENT, PRIVATE MURPHY, SARGE!
...WE CAN SURE USE ANOTHER HAND... OKAY, SMITTY, HE'S YOUR BOY!
The MECHANICS' CREED
"...knowing ..that the safety of others depends upon my skill and Judgment... I pledge myself never to undertake work beyond the limits of my knowledge."
HOW TO REPEAL MURPHY'S LAWS

MURPHY, THIS IS SERGEANT SMITH... CHECK IN WITH HIM!
YEAH?
HI YA!
SERGEANT SMITH, I GOT SOMETHIN' TO TELL YOU!
I WENT THROUGH SCHOOL IN A BREEZE, LIKE I WAS TOPS IN MY CLASS... SO, I GOT GOOD NEWS FOR YOU!
WHAT'S THAT?
YOU DON'T HAVE TO WET NURSE ME... JUST POINT ME AT THE JOB AND LEMME BE!!
THAT SUITS ME FINE!! I GOT A LOT OF OTHER THINGS TO DO!!
SEE YOU AROUND!! YOU NEED ANY HELP- LOOK ME UP!
HARDLY...
HELP?? HAW... ME?? HOT-SHOT MURPHY?... ...IS HE KIDDING??

LESEE, NOW... THIS THROTTLE LINKAGE ... AH YES, A BREEZE.
HEY, CAN I SWIPE ONE OF THEM THERMOCOUPLES?
SURE, WHICH?
MOX NIX!
LET'S HIT THE CHOW-LINE, MURF!
YUP, SOON'S I FINISH CONNECTING UP THIS IGNITION HARNESS!
MAN, YOUR HOT!! FINISHED YOUR WORK ALREADY? ...I GOTTA LOT OF QUESTIONS TO ASK BEFORE I'M FINISHED!
...YOU'RE TALKIN' TO A HOT-SHOT MECHANIC. I DON'T NEED HELP... LET'S FEED!
LATER
HI YA, SARGE, HELLO CONNIE... WHAT YOU DOIN' UP HERE?
JUST CAME IN— I'M VISITING TROOPS THIS TRIP!!
HEY, SMITTY, WHERE'S MURPHY... HOW'D HE DO OUT ON THE LINE?
NO SWEAT! THAT BOY'S A HOT SHOT!
UH, OH, MURPHY'S LAW STRIKES AGAIN!
PIN UP



IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULL

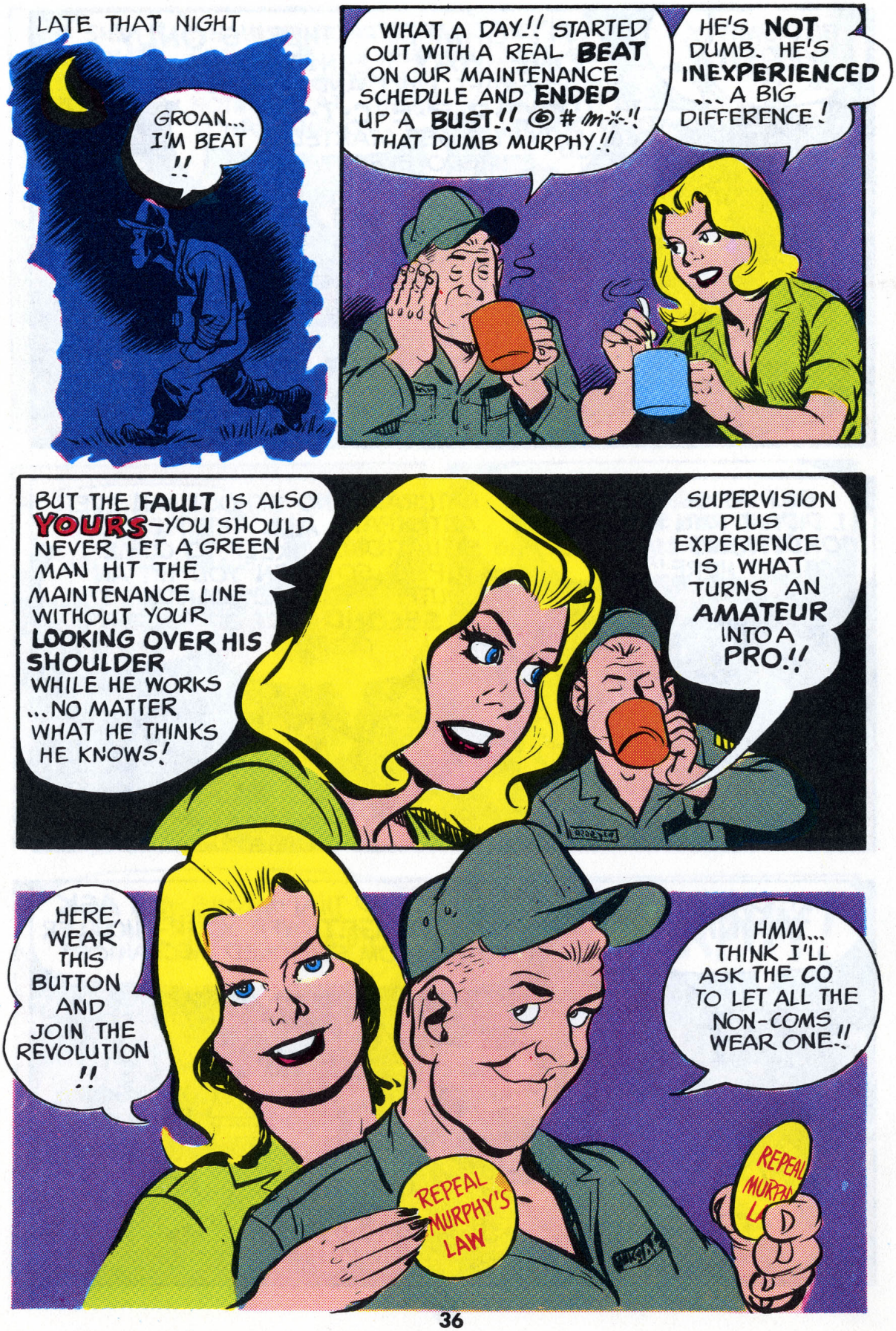
IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

QUIPMENT ...Take care of it

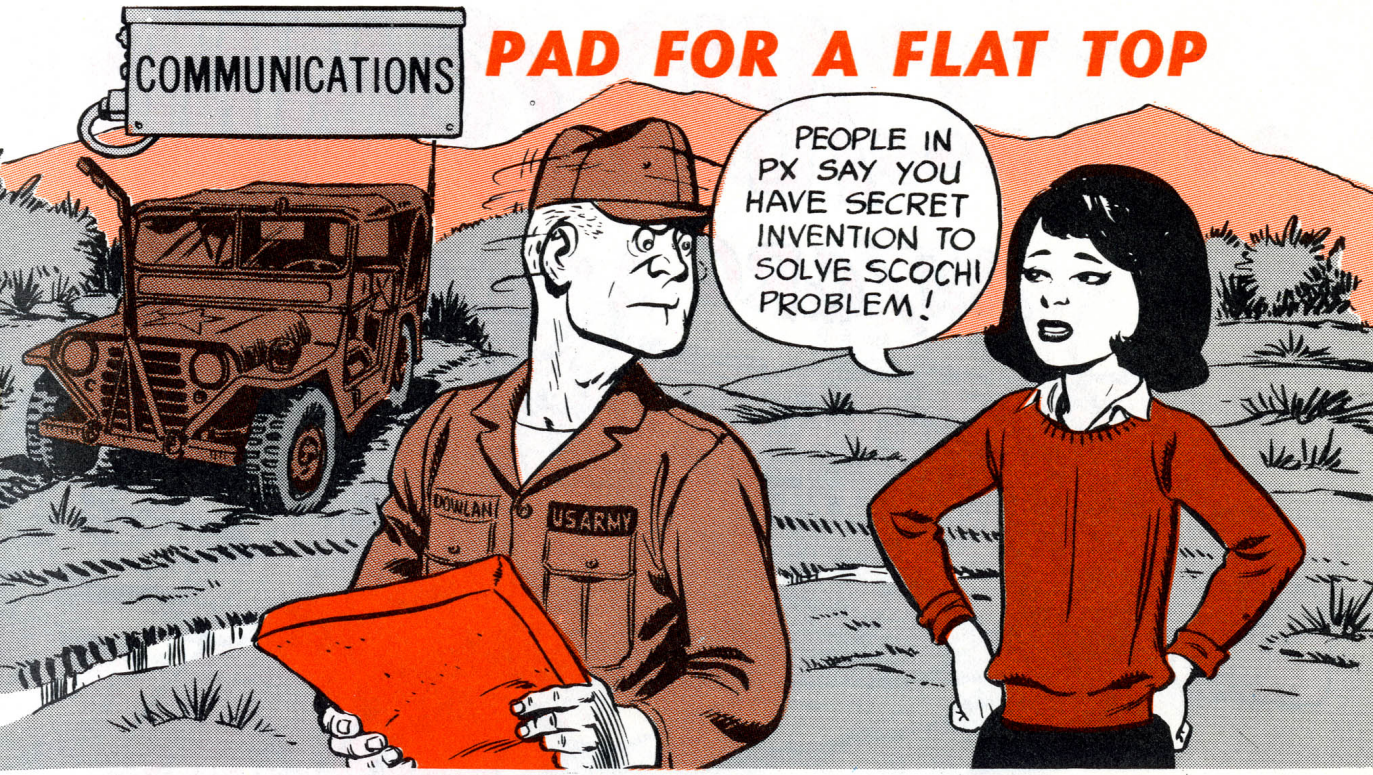
LETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

HOT SHOT? MAN, THAT KID'S JUST OUTTA SCHOOL. HE NEEDS ALL THE HELP HE CAN GET!!
HAW, HE DON'T NEED NO HELP... HE WHIPPED THRU HIS WORK IN NOTHIN' FLAT... WE'RE 'WAY AHEAD!
HEY!! @+!m! I JUST BEEN INSPECTING MURPHY'S WORK. WOTTA BOMB!
WHERE? SHOW ME!
HUH?
LOOK AT THIS LOUSED UP THROTTLE LINKAGE!
OH, NO!
AND THAT THERMOCOUPLE IS NOT THE ONE THAT BELONGS IN THIS SET-UP!
AND THESE IGNITION LEADS—BASSACKWARDS.
MURPHY!

BUT SMITTY, THEY FIT!!
FIT-SHMITT-- THERE'S ONLY ONE WAY TO INSTALL AN AIRCRAFT PART AND THAT IS: C-O-R-R-E-C-T-L-Y! ... LET'S GET STARTED! ... REDO EVERYTHING!
BUT AT SCHOOL I DIDN'T RUN INTO CONDITIONS LIKE YOU GOT OUT HERE!!
NATURALLY, NO SCHOOL CAN EVER ANTICIPATE ALL THE FIELD SITUATIONS LIKELY TO COME UP!!... SO WHEN YOU HIT AN OUTFIT YOU ARE STARTING THE SECOND PART OF YOUR COURSE.
LIKE ON-THE-JOB TRAINING?!
RIGHT! AND THAT MEANS YOU ASK FOR AND GET OVER-YOUR-SHOULDER HELP FROM SEASONED MECHANICS!
KEEP GOIN', KID, YOU GOT EIGHT MORE JOBS TO BE RE-DONE!


LATE THAT NIGHT
GROAN... I'M BEAT !!
WHAT A DAY!! STARTED OUT WITH A REAL BEAT ON OUR MAINTENANCE SCHEDULE AND ENDED UP A BUST!! @#m-*-!! THAT DUMB MURPHY!!
HE'S NOT DUMB. HE'S INEXPERIENCED ...A BIG DIFFERENCE!
BUT THE FAULT IS ALSO YOURS-YOU SHOULD NEVER LET A GREEN MAN HIT THE MAINTENANCE LINE WITHOUT YOUR LOOKING OVER HIS SHOULDER WHILE HE WORKS ...NO MATTER WHAT HE THINKS HE KNOWS!
SUPERVISION PLUS EXPERIENCE IS WHAT TURNS AN AMATEUR INTO A PRO!!
HERE, WEAR THIS BUTTON AND JOIN THE REVOLUTION !!
REPEAL MURPHY'S LAW
HMM... THINK I'LL ASK THE CO TO LET ALL THE NON-COMS WEAR ONE!!
REPEAL MURPHY'S LAW

PAD FOR A FLAT TOP



Dear Half-Mast,

This outfit has wound up with plastic pads, 12x11x1 inches, after installing AN/GRC-125 and AN/VRC-53 radio sets in some of our M151 ¼-ton trucks. My question is: What do we do with 'em?

SSG S. D. L.

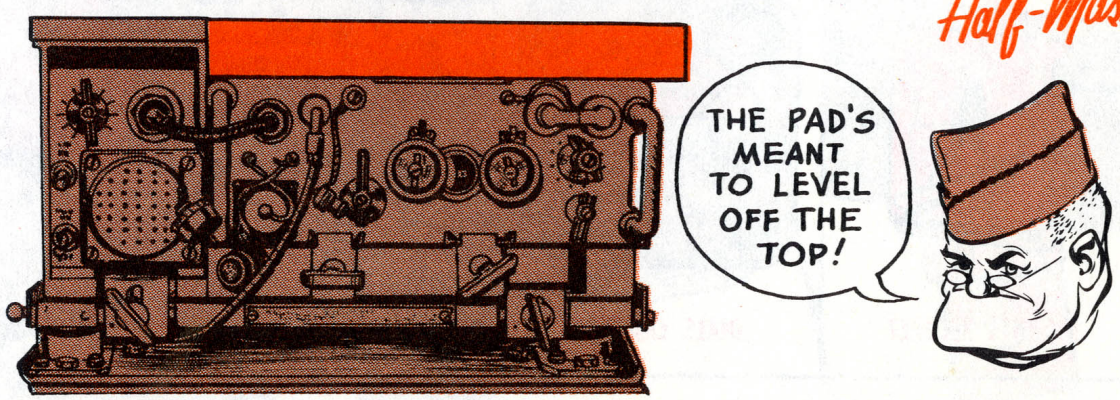
Dear Sergeant S. D. L.,

No sweat. That pad (FSN 5820-078-4185) lays on top of your RT-505 receiver-transmitter when used with the OA-3633 amplifier-power supply group to form a flat surface for a CW-653 canvas cover (FSN 5820-082-3741).

Without the pad the corners of the OA-3633 tend to dig holes in that CW-653, and before you can say 'a stitch in time' that protector cover looks like swiss cheese.

Of course, if you remove the cover, keep the pad with it or the pad may wind up like a wayward wanderer.

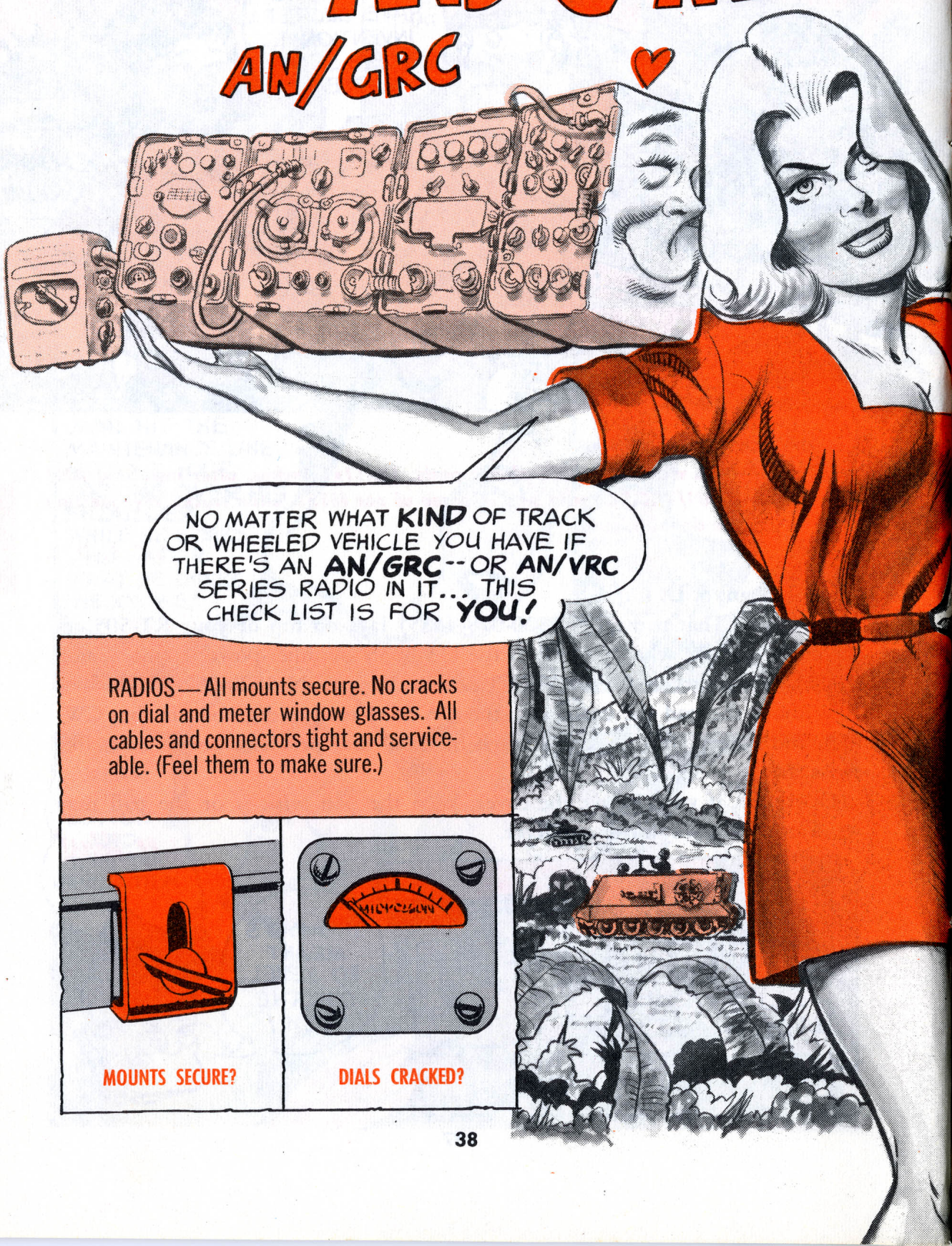
Half-Mast



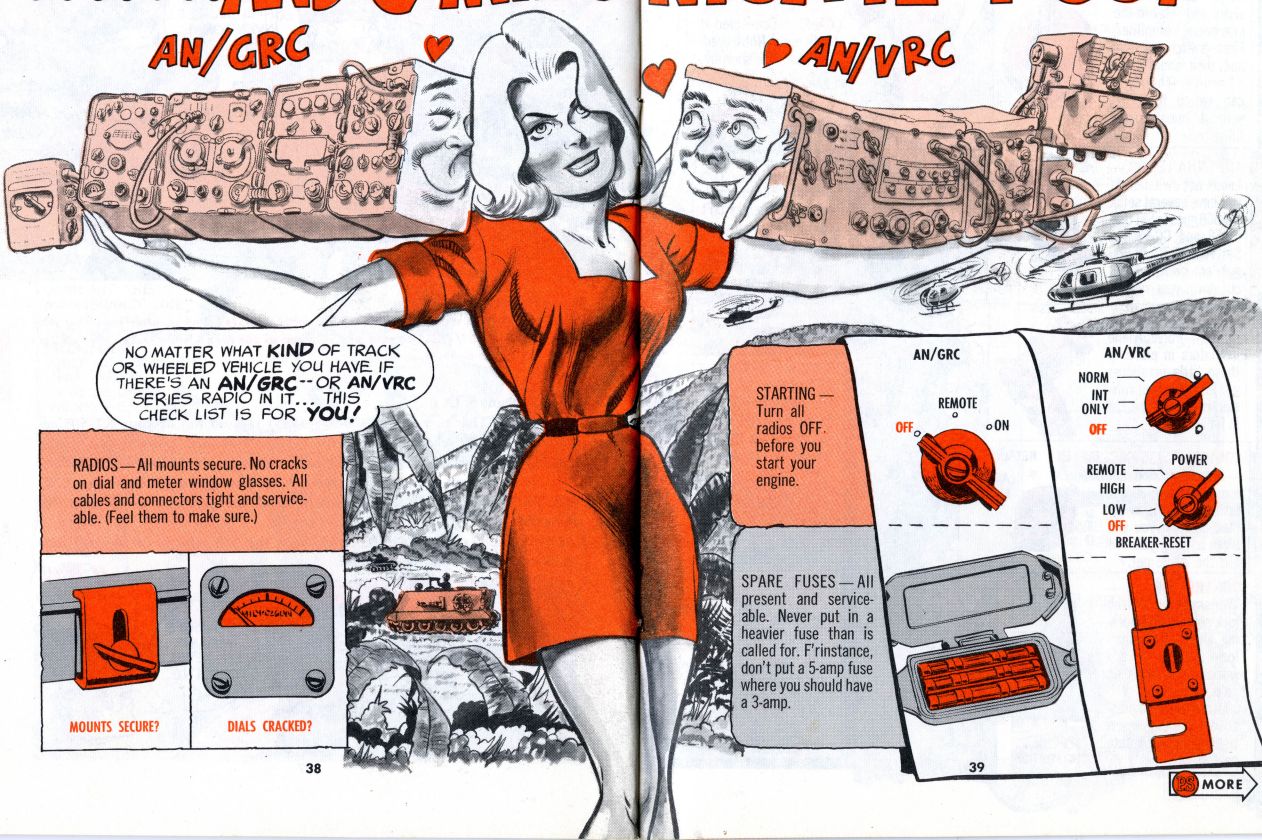
SCOOT AND SHOOT . . .

. . . . . AND COMMU

AN/GRC

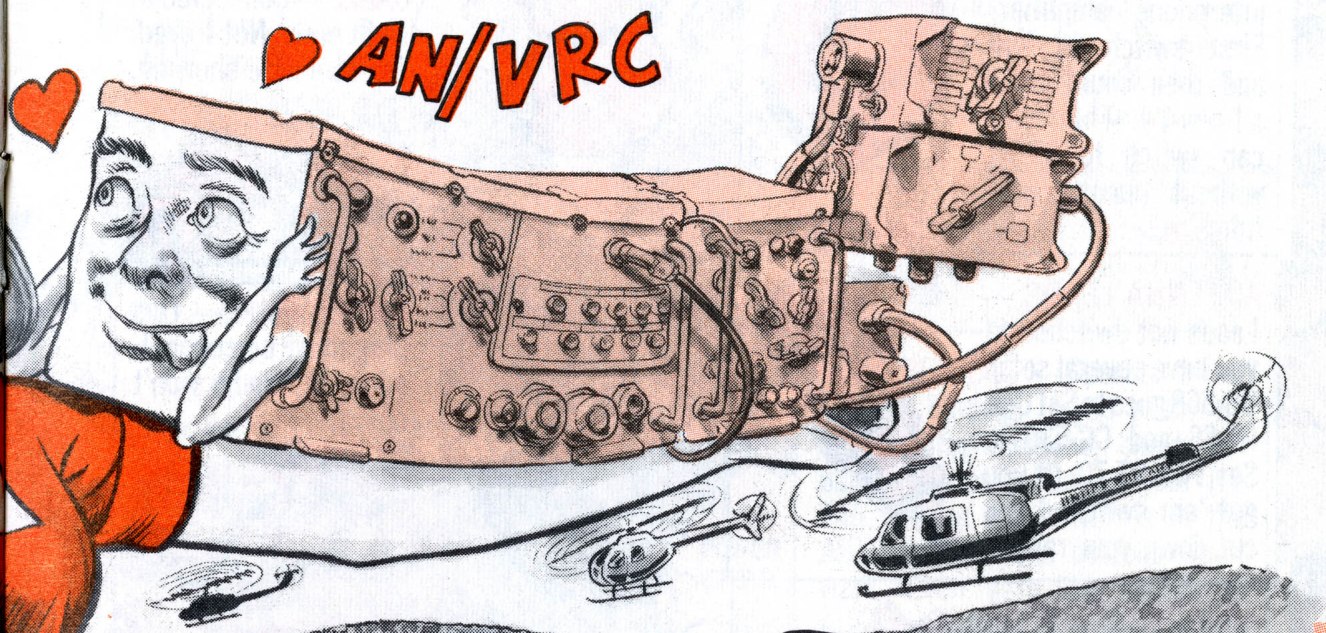


AND COMMUNICATE TOO!



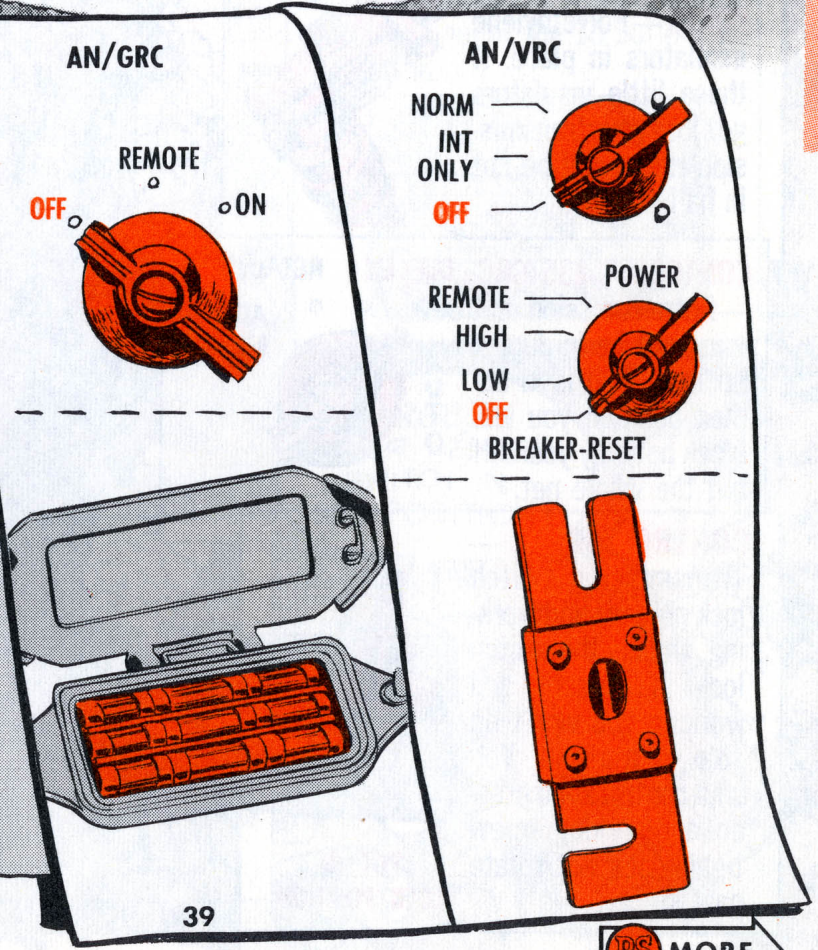
MORE

NICATE TOO!



STARTING — Turn all radios OFF before you start your engine.

SPARE FUSES — All present and serviceable. Never put in a heavier fuse than is called for. F'rinstance, don't put a 5-amp fuse where you should have a 3-amp.

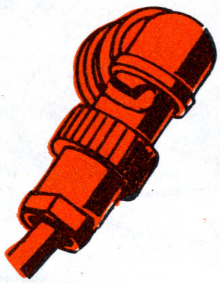


MORE

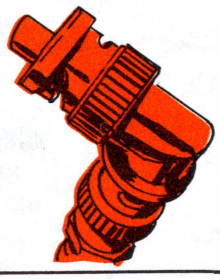
AN GRC-3,-8 SERIES ONLY

SET 2 — If you switch this on directly to RT-70 you can ruin a resistor and relay in the interphone amplifier. First switch to INT and then count to 3 s-l-o-w-l-y. Then you can switch to RT-70 without hurting anything.

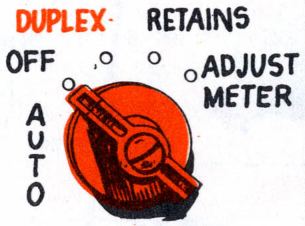
ANTENNA LEADS — Leads not switched (if you have several sets). CG-568 goes to Set One RT-66 and CG-530 to Set Two RT-70. (If you get 'em switched you cut down your range).



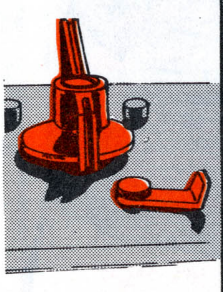
ANTENNA BINDING POSTS — Polyethylene insulators in place. If these little insulators get lost your transmission range will be cut in half.

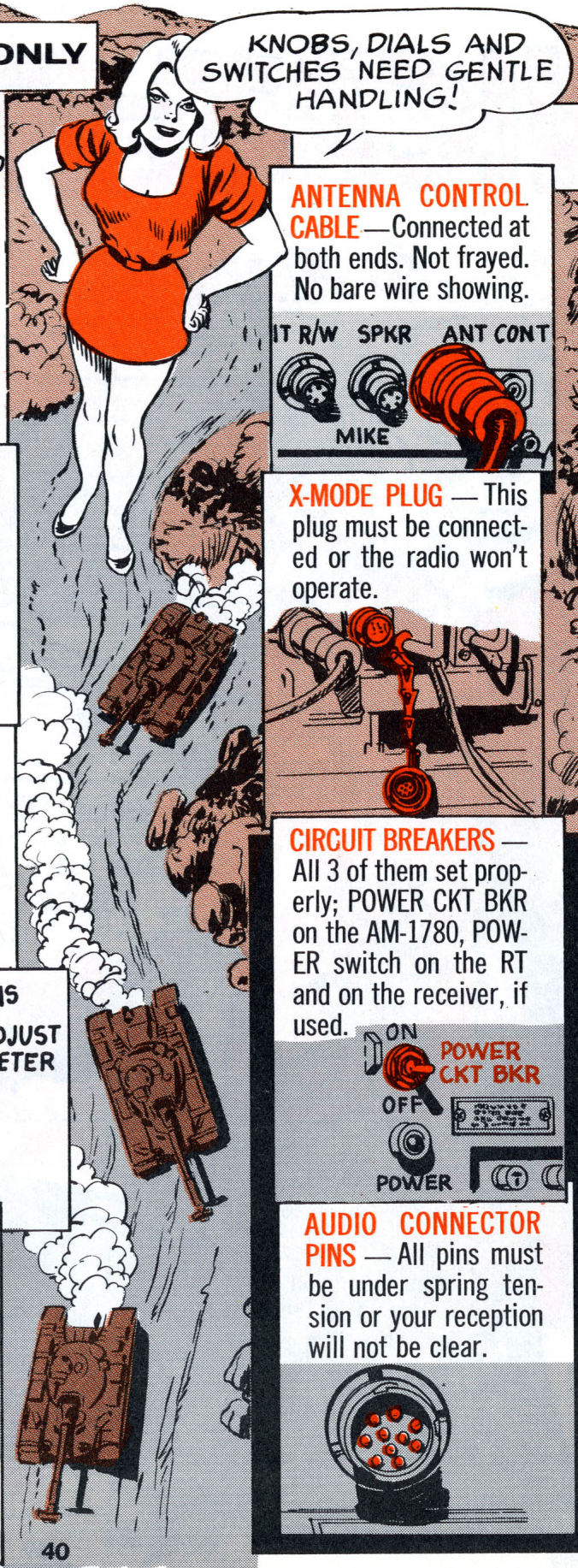


CONTROL C-435/GRC — Retransmission unit must not be in duplex position. If it is in duplex position you will block not only yourself but the whole net.



CONTROL BOXES — Transmission switch lock present and working. Unless the switch lock is present and working you won't be able to transmit. Volume control knob present and working, screw tight, does not rotate past stop.





ANTENNA CONTROL CABLE — Connected at both ends. Not frayed. No bare wire showing.

X-MODE PLUG — This plug must be connected or the radio won't operate.

CIRCUIT BREAKERS — All 3 of them set properly; POWER CKT BKR on the AM-1780, POWER switch on the RT and on the receiver, if used.

AUDIO CONNECTOR PINS — All pins must be under spring tension or your reception will not be clear.

AN GRC-3,-8 SERIES ONLY

KNOBS, DIALS AND SWITCHES NEED GENTLE HANDLING!

SET 2 — If you switch this on directly to RT-70 you can ruin a resistor and relay in the interphone amplifier. First switch to INT and then count to 3 s-l-o-w-l-y. Then you can switch to RT-70 without hurting anything.

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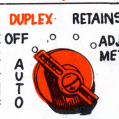

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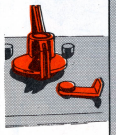

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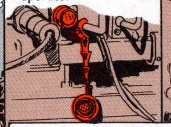
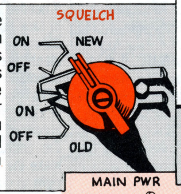


CIRCUIT BREAKERS — All 3 of them set properly; POWER CKT BKR on the AM-1780, POWER switch on the RT and on the receiver, if used.

AUDIO CONNECTOR PINS — All pins must be under spring tension or your reception will not be clear.

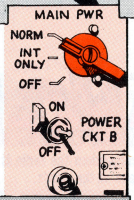
AN VRC-12 SERIES RADIOS

SQUELCH SWITCH — In the right position. Lock it on the NEW position unless you must net with old series FM radios such as the Angry-3 thru -8 series or PRC-6, -8, -9 or -10. If you want to listen to the old series FM radios, lock in on the OLD position.

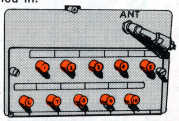


CALL LIGHTS — Operate. Bulbs (No. 327) not burned out. (You'll find a spare in the bulb box.) Be sure light switch is turned ON before you decide the bulb is burned out.

AMPLIFIER POWER — If your amplifier power light is on but you get no power at your radios, don't holler for the commo repairman until you make sure that the MAIN PWR switch on the amplifier is turned to the NORM position. If it is in any other position your radios won't work.

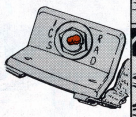


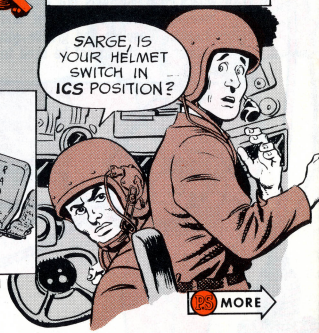
PUSH BUTTONS — Operate freely without binding. If you push 'em and nothing happens, check the band selector switch on your RT-246. Unless the switch is in the AUTO position the buttons won't work. Even with the switch at AUTO you can't transmit unless one (any one) of the 10 buttons is pushed in.



MAIN POWER SWITCH — Even if your MAIN PWR switch is in the NORM position and your radios are receiving, it will still be impossible to transmit if your RADIO TRANS switch is in the LISTENING SILENCE position. If you move it to the CDR only spot, only the vehicle commander can transmit. It has to be in the CDR + CREW slot before everybody can transmit.

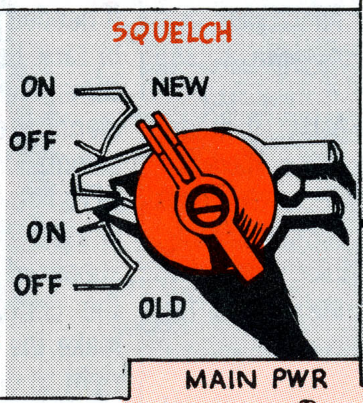
TRANSMISSION SWITCH — Another thing that might throw you is the tank commander's helmet transmission switch. With this switch in the ICS (intercom) position, nobody else in the tank can transmit on the radios. Also, if a driver, gunner or loader has his switch at ICS, nobody but the tank commander can transmit.





(OVER) MORE

SQUELCH SWITCH — In the right position. Lock it on the NEW position unless you must net with old series FM radios such as the Angry-3 thru -8 series or PRC-6, -8, -9 or -10. If you want to listen to the old series FM radios, lock in on the OLD position.



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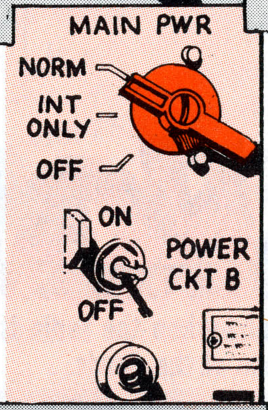

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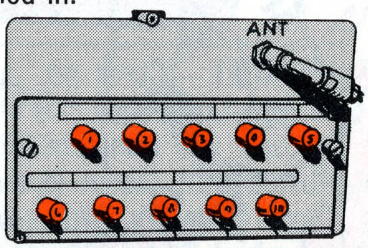

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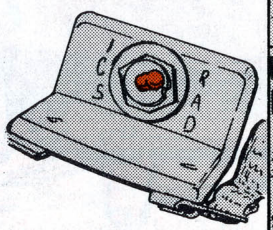
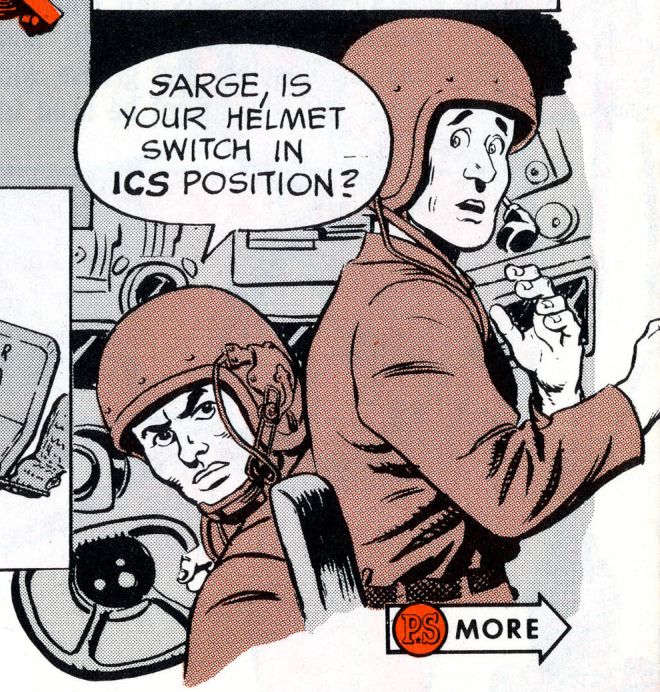


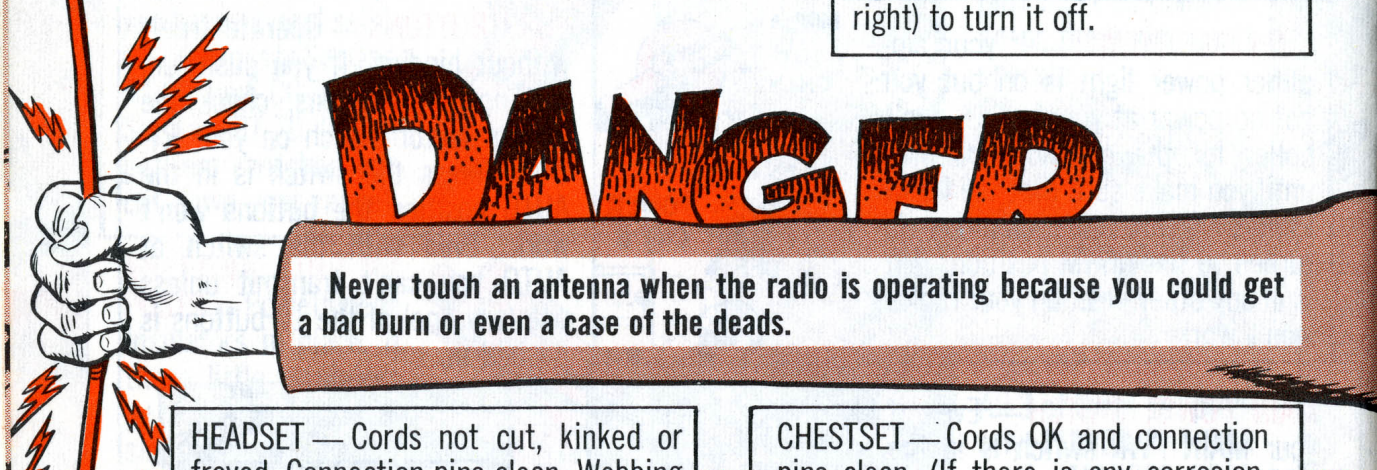


P.S. MORE

RED FLAG — A red flag in the frequency dial window of your RT-246 is your warning to stop and figure out what has to be done to make the flag go away. The flag will pop into the window when you reach either end of the "A" (30-52) or "B" (53-75) band. However, it goes away as soon as you back off your tuning control.

If the flag appears when you're on AUTO, it means something is wrong with your push buttons. Have the commo man fix them for you. Meanwhile, switch back to manual operation and you can go on communicating. All you have to do is back off your tuning control to make the flag disappear and then tune to the frequency you want.

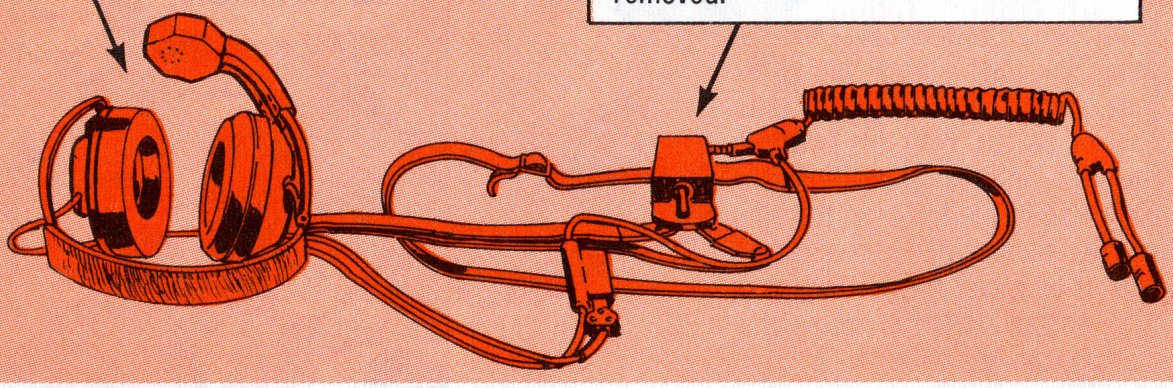
FREQUENCY SELECTOR BOX — Before replacing the light first make sure that it has really burned out and is not just turned off. Replace if needed with a Number 327 bulb. In tank use, the loader's and tank commander's selector boxes are identical except that only the tank commander can turn the radios OFF. The OFF position on the loader's box does not work and is not supposed to. Turn the ring around the control light to the left to make the light brighter and to the right to dim the light and (extreme right) to turn it off.

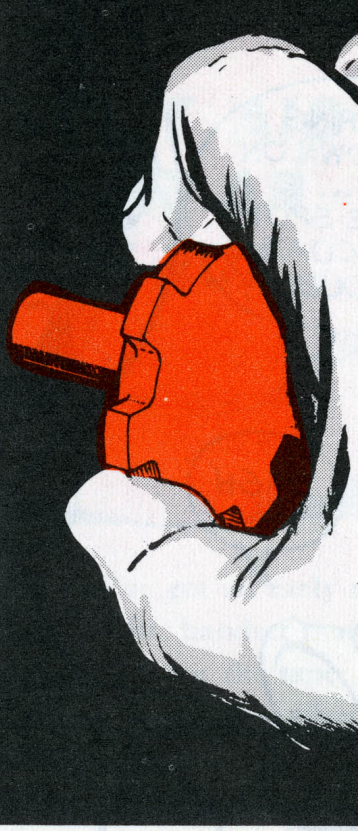


Never touch an antenna when the radio is operating because you could get a bad burn or even a case of the deads.

HEADSET — Cords not cut, kinked or frayed. Connection pins clean. Webbing present and complete. Boom mike adjusted right. (About ½ inch from lips.) Boom mike dry. (Water will put it out of whack.) Ear cushions not chunked or missing. Head band present and serviceable. (Gasoline and grease will rot rubber and should not be used to clean it.)

CHESTSET — Cords OK and connection pins clean. (If there is any corrosion, remove it gently with crocus cloth and clean, dry, rags.) Push-to-talk switch operates smoothly and returns from the RAD to the listen position as soon as you take your thumb off it. When the switch is flipped to the ICS position it should stay there and not return to the listen position when thumb pressure is removed.





EASY—YOU'LL BREAK IT OFF

A little light-fingered activity on the screw-in plastic dust covers for receptacles on AN/VRC-12 series radio set components can save big problems.

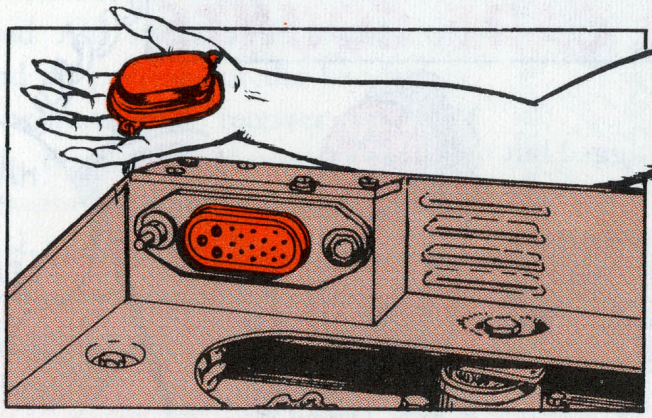
Namely, overtightening by hand or otherwise breaks the plastic stem inside the connector, which leads to all kinds of complications.

If you should get the broken stem out, you can get a replacement with FSN 5935-958-4869. You'll find it in Ch 4 to TM 11-5820-401-20.

GOT IT COVERED?

Keeping dirt, mud and moisture out of the MT-1029 or MT-1898 mount's electrical receptacle is mighty important when your RT-524, -246 receiver-transmitter or R-442 receiver is pulled out for repairs.

Especially, if the mount is on an open-type vehicle like a M151 ¼-ton truck. 'Cause those little plug pin holes can get clogged, breaking the circuit, or water can short out your mount as well as drain your vehicle's battery.



When the mount's sittin' by its lonesome, cover the receptacle with a piece of tape. Better yet, get an electrical connector cover (FSN 5935-911-2323). It's listed on Page 91 in Change 4 to TM 11-5820-401-20 (Dec 61).

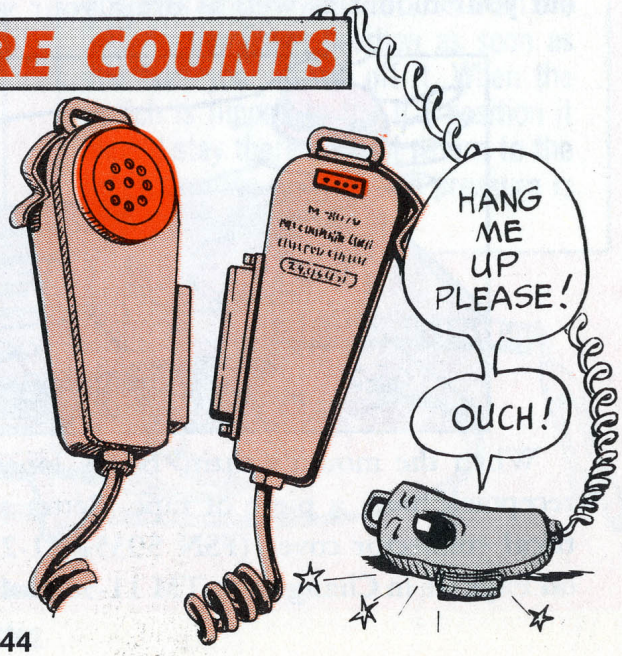
COAX CABLE SAVER

If that AT-912 or AS-1729 antenna's AB-719 base spring is a real snapper when it comes up against the coaxial relay cable, give the cable extra protection.

Your best bet's to get a rubber sleeve, FSN 4720-931-4762, and slip it over the coax lead . . . or as a temporary job wrap the cable, FSN 5995-813-8371, with a few turns of white electrical insulation tape, FSN 5970-240-0620.

O' course, when you find dry rot or some such, get the cable to your support for replacement, pronto.

M-80 CARE COUNTS



Your M-80 microphone's rugged but rough handling can knock loose the mike screen or case moisture seal assembly, FSN 5965-949-8184.

Get 'er put back on the back of the mike quick-like with an adhesive sealing compound, FSN 8030-930-2159, 'cause moisture will creep in.

To keep the mike out from underfoot or off the floor of your vehicle hang it by its hanger.

COAX CABLE SAVER

If that AT-912 or AS-1729 antenna's AB-719 base spring is a real snapper when it comes up against the coaxial relay cable, give the cable extra protection.

Your best bet's to get a rubber sleeve, FSN 4720-931-4762, and slip it over the coax lead . . . or as a temporary job wrap the cable, FSN 5995-813-8371, with a few turns of white electrical insulation tape, FSN 5970-240-0620.

O' course, when you find dry rot or some such, get the cable to your support for replacement, pronto.

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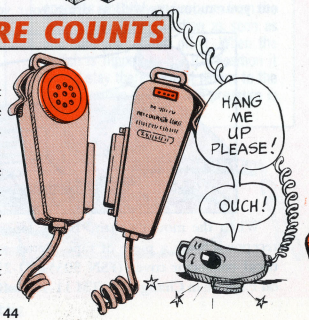

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FIRST AID FOR AN H-207

If you've got an early model, brittle H-207/VRC handset that's still in one piece, reach for the tape, Nate!

Those external telephone handsets purchased under order numbers 15023-PP-62-A1-A1 and 4143-PP-61 tend to shatter all over the landscape with the first hard knock or fall . . . which is a condition you can do without if you're taking the scenic jungle route. The purchase numbers are stamped on the handset.

There's a later, more pliable model that holds up well under shock treatment, but if you've got the brittle plastic model cited overhead, try this:

Band Aid style, wrap elastic tape around all portions of the handset except the transmitter, receiver and P-T-T switch. Be sure you leave the receiver and transmitter areas untaped.

FSN'S FOR HANDSET COVERS

Dear Half-Mast, Help! I'm in a bind. I need receiver and microphone covers for the H-138/U handset real bad. Are there stock numbers for 'em?
SP5 G. L. H.

Dear Specialist G. L. H., There sure are. FSN 5965-933-6886 will get you a receiver cover and FSN 5965-933-6887 will get you one for the microphone.

Half-Mast

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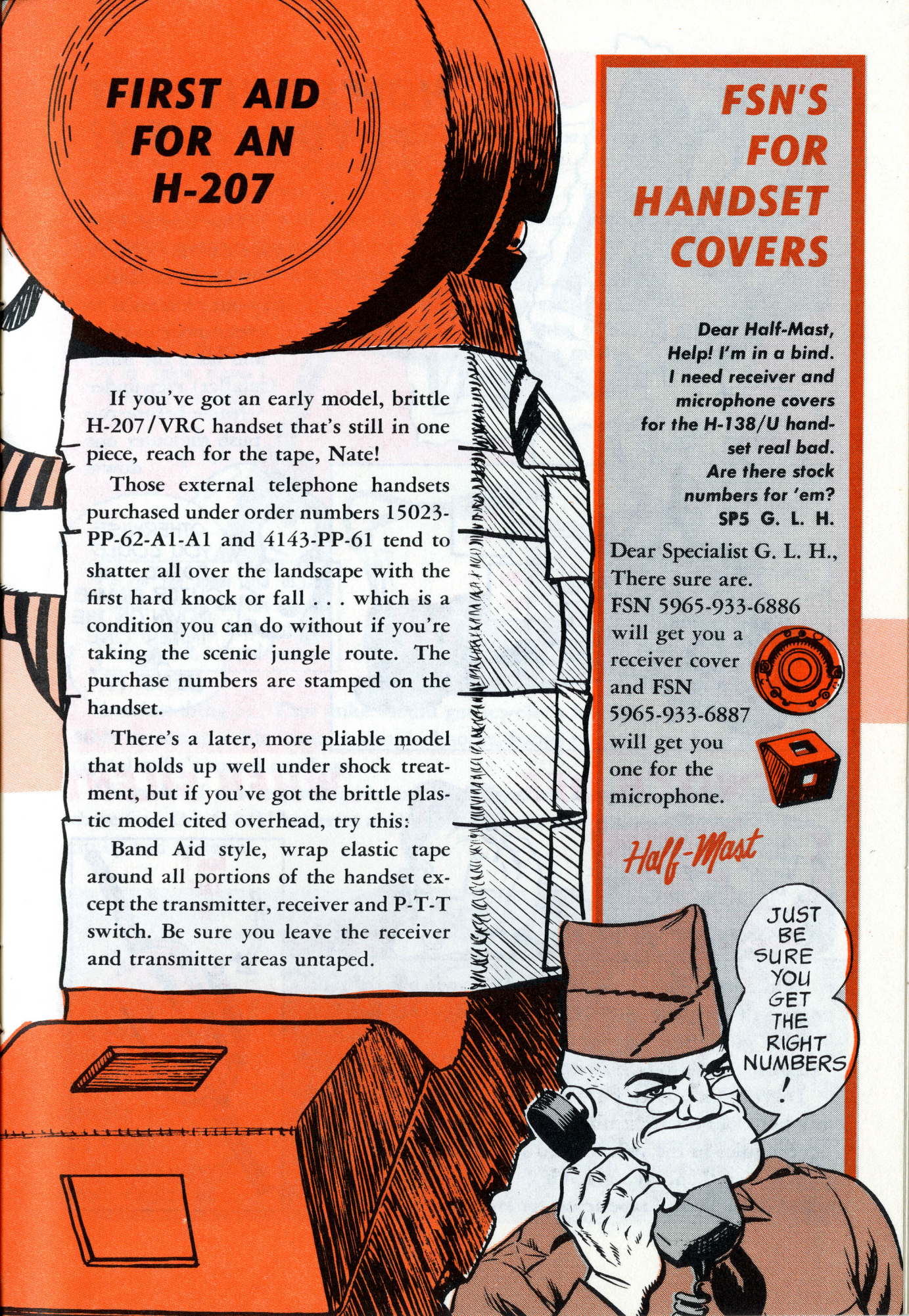
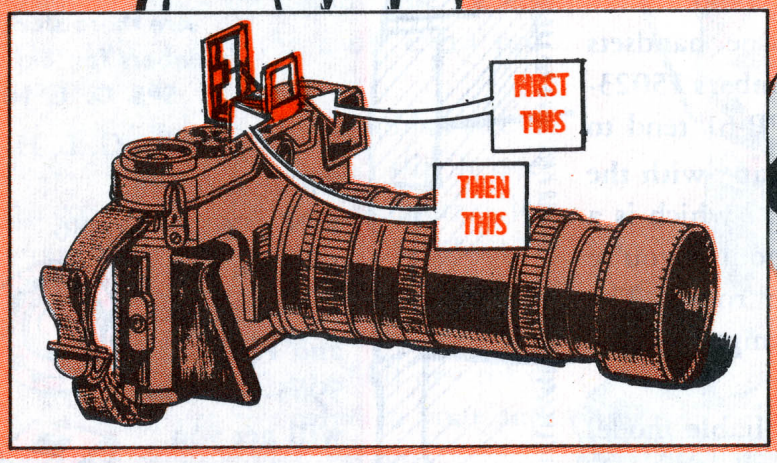
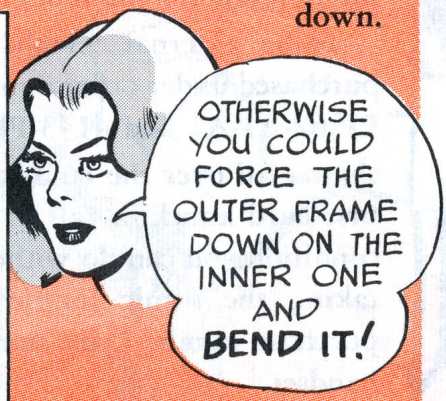


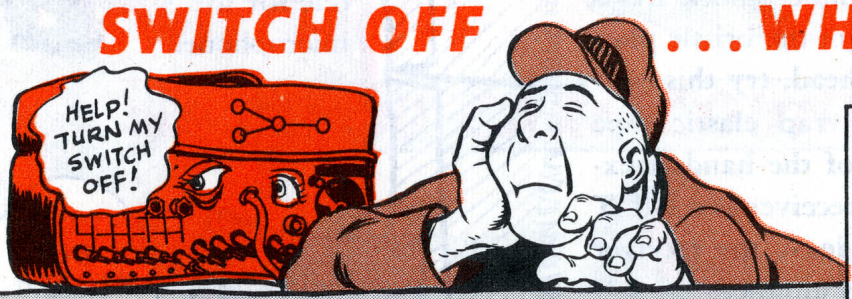
HOW'S THIS SUIT YOUR VIEW?

One way to keep your KS-6(1) camera set from taking way-out pictures is to remember to close and latch the inner (smaller) viewfinder frame before you push the outer one down.





SWITCH OFF . . . WHEN SILENT

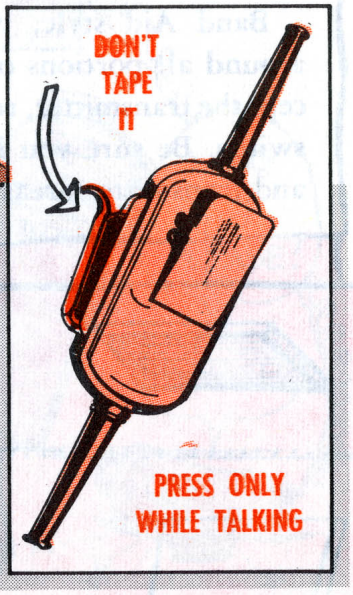


While there's a lull in SB-22()/PT switchboard talking don't let your H-81()/U or H-144()/U handset-headset go lullaby.

Put the push-to-talk switch to OFF.

Leaving the switch on when you have nothing to say can konk out the transmitter carbon element, besides use up the juice in the switchboard's BA-30 batteries.

It goes without saying, but it should be said anyway . . . never put a piece of tape across the switch to hold it down.

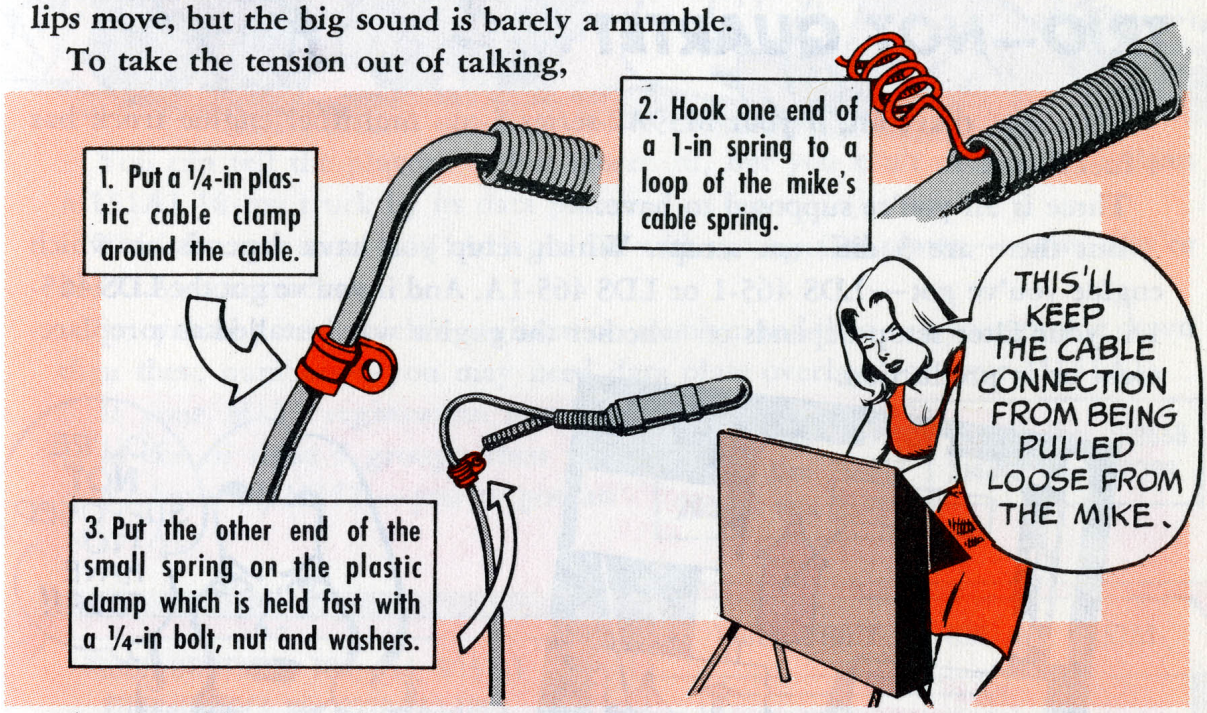


KEEP PORTABLE PA TALKING

Has some wise-guy type been pulling the cable out of the AN/UIH-4 public address set's M-126 dynamic microphone?

Like f'rinstance, when the mike is dangled like a bauble and swung like a pendulum, the cable and mike part company. Then, you can see the speaker's lips move, but the big sound is barely a mumble.

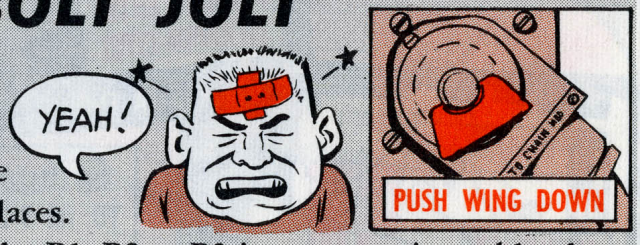
To take the tension out of talking,



Another thing . . . That mike should get jeweler's handling when it's on the 30-ft extension cable 'cause a coupla knocks, bangs or drops could shatter the crystal mike's sound to silence.

Oh yeah! If you're putting the public address set away for awhile, take out those four BA-410/U batteries or the set's innards may get corroded or be eaten up by bad batteries.

WING BOLT JOLT

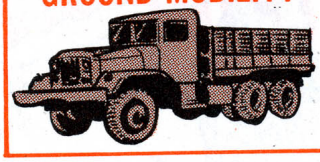


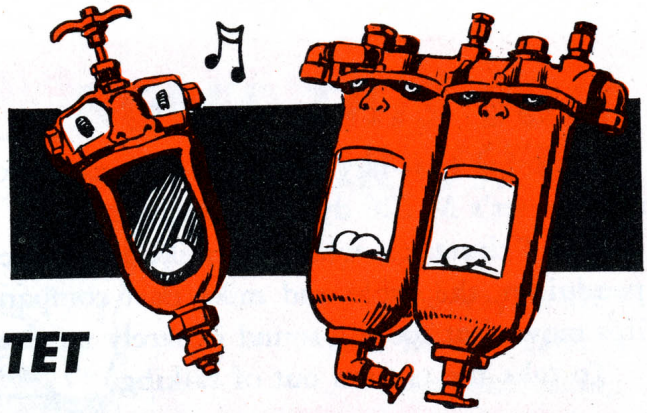
Those wing bolts sticking out on your AN/TCC-7 or -50 telephone terminal can smart in the dumbest places.

So, after you've snuggled in, say the P1, P2 or P3 interconnecting cable plug on the TA-219/U telephone modem, push the wing bolt against the plug.

'Cause a jutting one can cut, skin or scrape the hide off a telephone-terminal type who is reaching high or bending low making switch adjustments or some such similar stuff.

GROUND MOBILITY





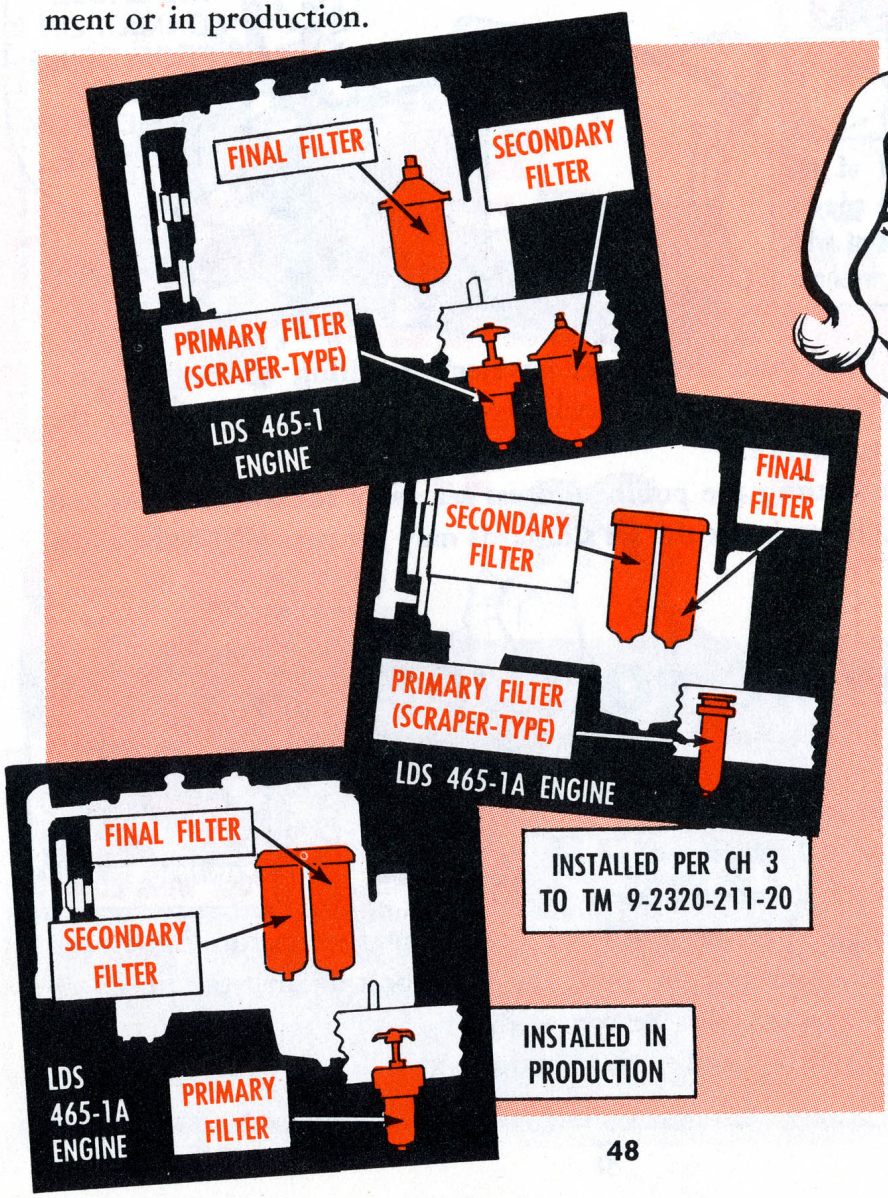
5-TON MULTIFUEL FILTERS . . .

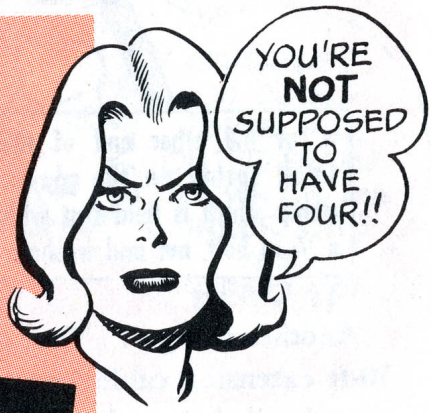
TRIO--NOT QUARTET

It's a slip, that's all, if your M39A2-series 5-ton multifuel engine truck has 4 fuel filters.

Three is all you're supposed to have.

But there are 3 different setups. Which setup you have depends on which engine you've got—LDS 465-1 or LDS 465-1A. And if you've got the LDS 465-1A, your filter setup depends on whether the engine was installed as a replacement or in production.

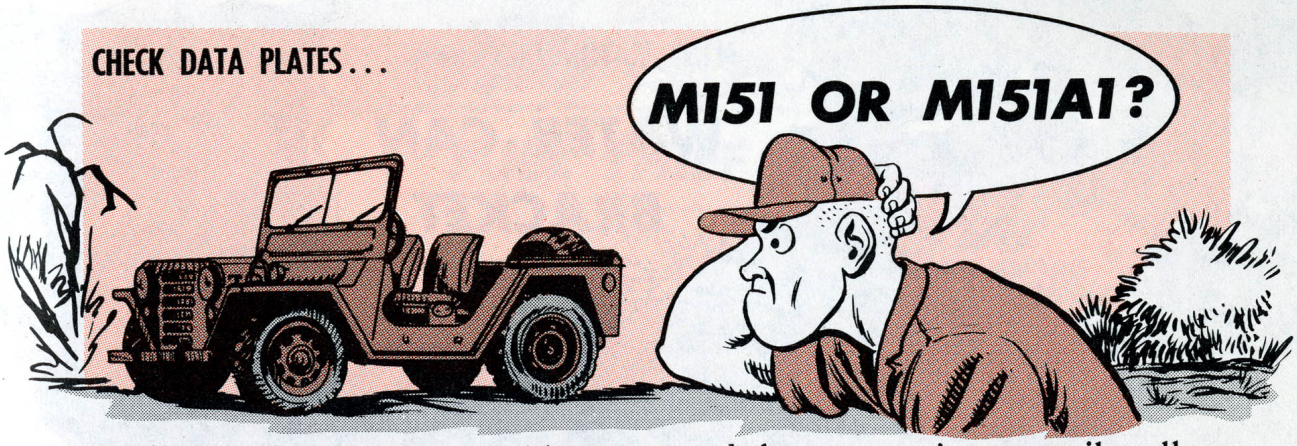




If you've got 4 filters, it's because someone forgot to take off the original secondary filter when replacing an LDS 465-1 engine with an LDS 465-1A engine. Ch 3 (Nov 66) to TM 9-2320-211-20 tells how it's supposed to be done.

See PS 175 for filter parts and elements.

CHECK DATA PLATES...



You can tell the players with a scorecard, but you can't necessarily tell an M151A1 ¼-ton truck by its data plates.

This's because some M151A1's got out with wrong data plates—sayin' they're M151 ¼-ton trucks.

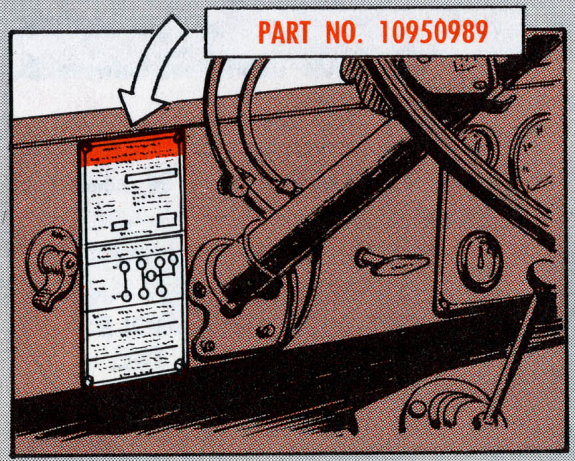
So eyeball your vehicle's registration number and then run your pinkie down thru these numbers—you may need data plate overlays for your M151A1:

If your M151 registration number is in one of these 5 groups, then you don't have an M151—you've got an M151A1.

2E8934 thru 2E9999	2H0001 thru 2H0668
2F0001 thru 2F8817	2J4643 thru 2J8393
2G0668 thru 2G9999	

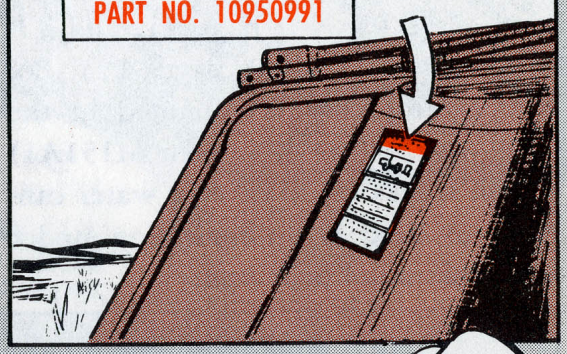
TRUCK, UTILITY: ¼ TON, 4x4, M151A1
FEDERAL STOCK NO. 2320-763-1092

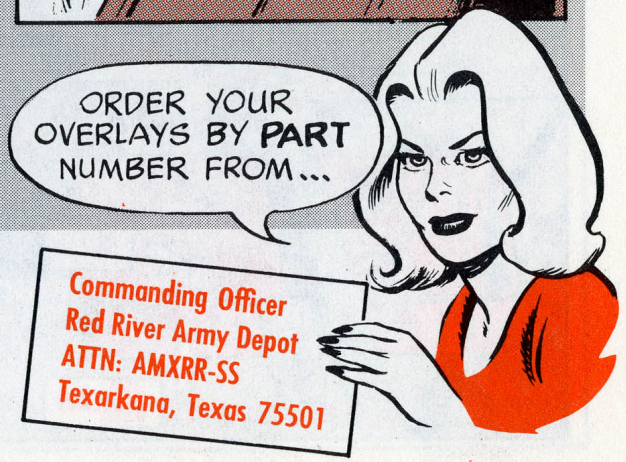
PART NO. 10950989



TRUCK, UTILITY: ¼ TON, 4x4, M151A1

PART NO. 10950991

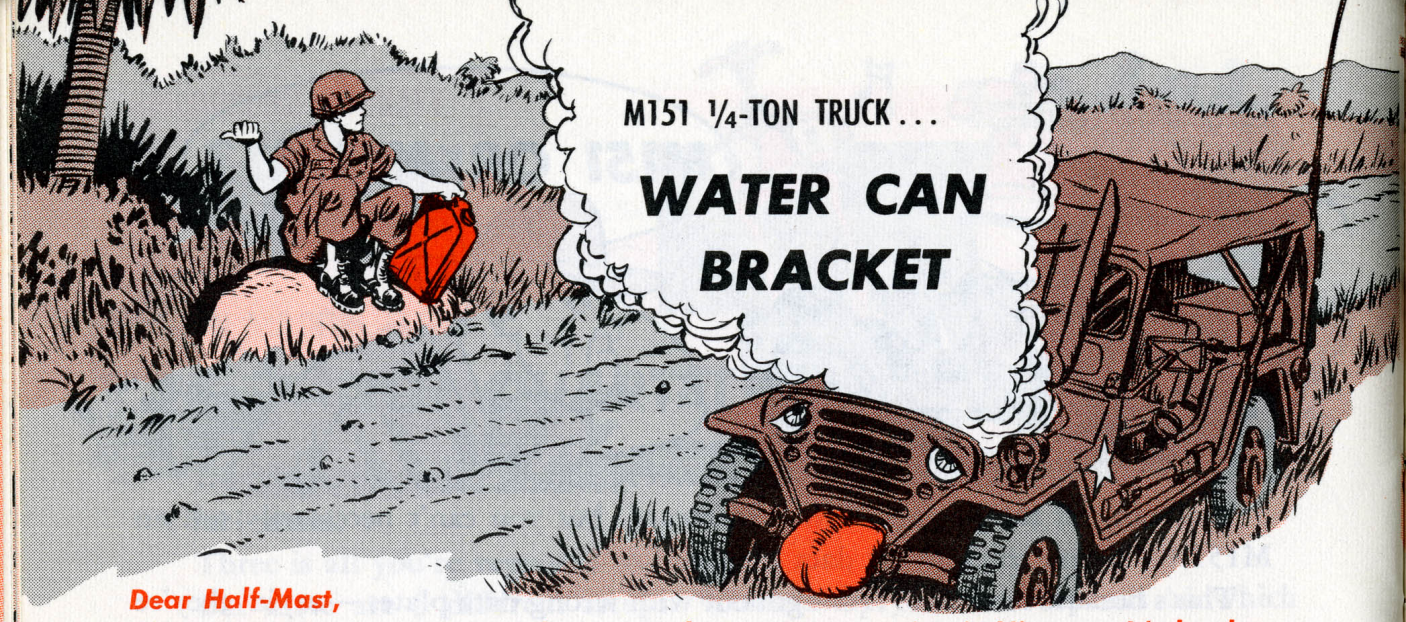




Commanding Officer
Red River Army Depot
ATTN: AMXRR-SS
Texarkana, Texas 75501

There's no charge for these overlays.

When you get 'em, just take out the 2 screws at the top of the data plate, line up your overlay with the holes and screw 'er down.



M151 ¼-TON TRUCK . . .

WATER CAN BRACKET

Dear Half-Mast,

We just can't carry too much water when we're operating in Vietnam. It's hard to say which we need more for our vehicles, extra water or extra fuel. Fact is, we've got to have both!

But we've run out of room for totin' the water can in our M151 ¼-ton trucks, what with everything else we've got packed aboard.

Got any ideas?

SGT K. C. D.

Dear Sergeant K. C. D.,

How 'bout borrowing an idea from the M151A1C weapons carrier? Its gas can is mounted on the left side engine cowl—see PS 175, page 11, and TB 750-933-1/3 (Jul 66), pages 183-186.

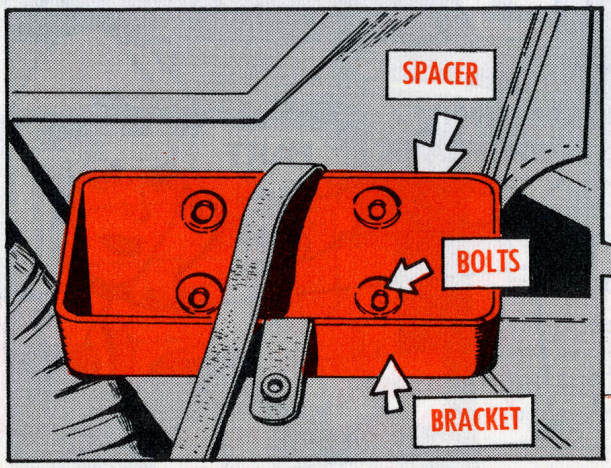
The same bracket mounted in the same way on your M151 (or M151A1) ¼-ton trucks could carry a water can. All you need is authorization under local command SOP and:

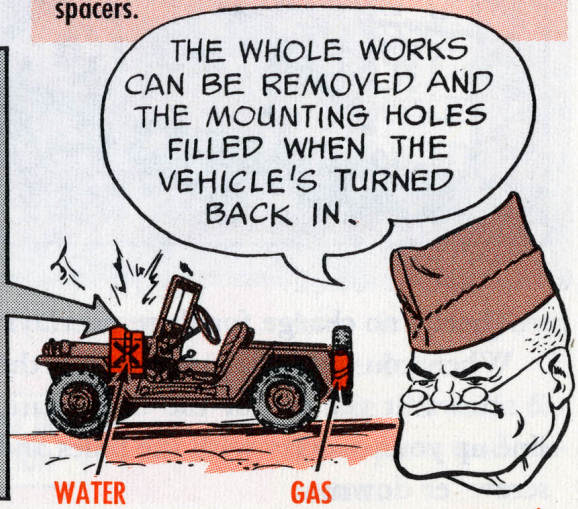
—Bracket, Drum, FSN 2590-473-6331, listed in Fed Cat C2590-IL-A (Jul 66). Most bigger trucks already have these brackets for gas and water cans, so you might find all you need at your local cannibalization point.

—Backing plate (fabricated) behind the cowl.

—Spacer plate (fabricated) between the cowl and bracket.

—Bolts, washers and nuts for mounting. A few extra washers may be needed as spacers.





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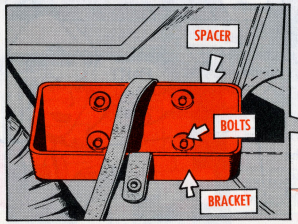
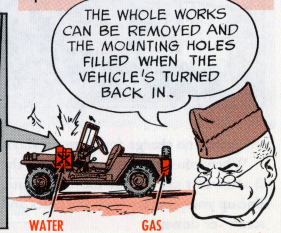
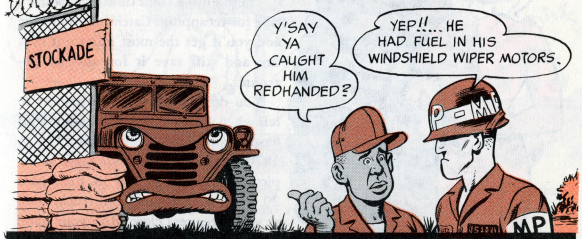




Half-Mast

FUEL THIEF NABBED



Dear Editor,

Fuel-hogging by one of our new M151 ¼-ton trucks (M151A1) was blamed on the carburetor, so the mechanics replaced the carb. That didn't help.

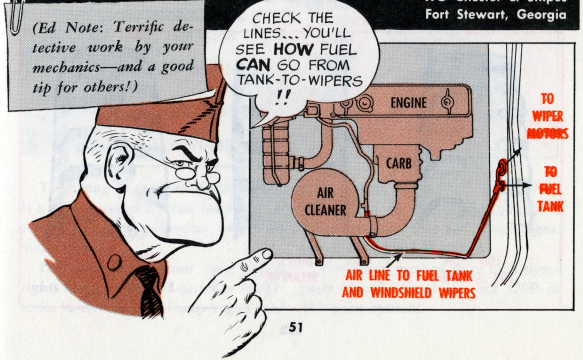
Another puzzle came up when the windshield wiper motors were taken apart to see why they wouldn't work—they were full of fuel! Tracing back on the line, we found that the intake manifold and vacuum pump were pulling gasoline out of the fuel tank and into the wiper motors.

Checking farther back, we found that the air line from the engine air cleaner was plugged. Since the vacuum-operated wipers couldn't pull air from the air cleaner, they pulled it—and fuel—from the fuel tank.

When the line was unplugged, fuel consumption went back to normal.

WO Chester L. Snipes
Fort Stewart, Georgia

(Ed Note: Terrific detective work by your mechanics—and a good tip for others!)



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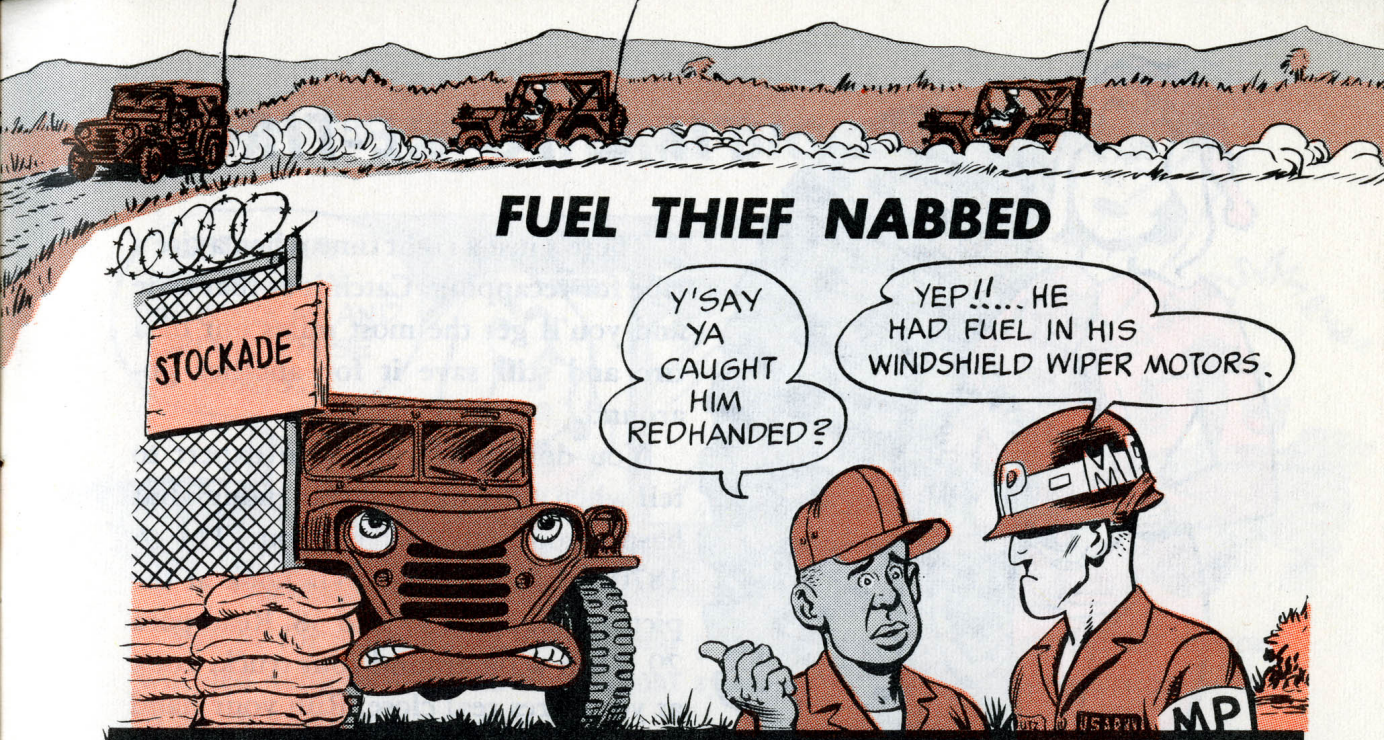

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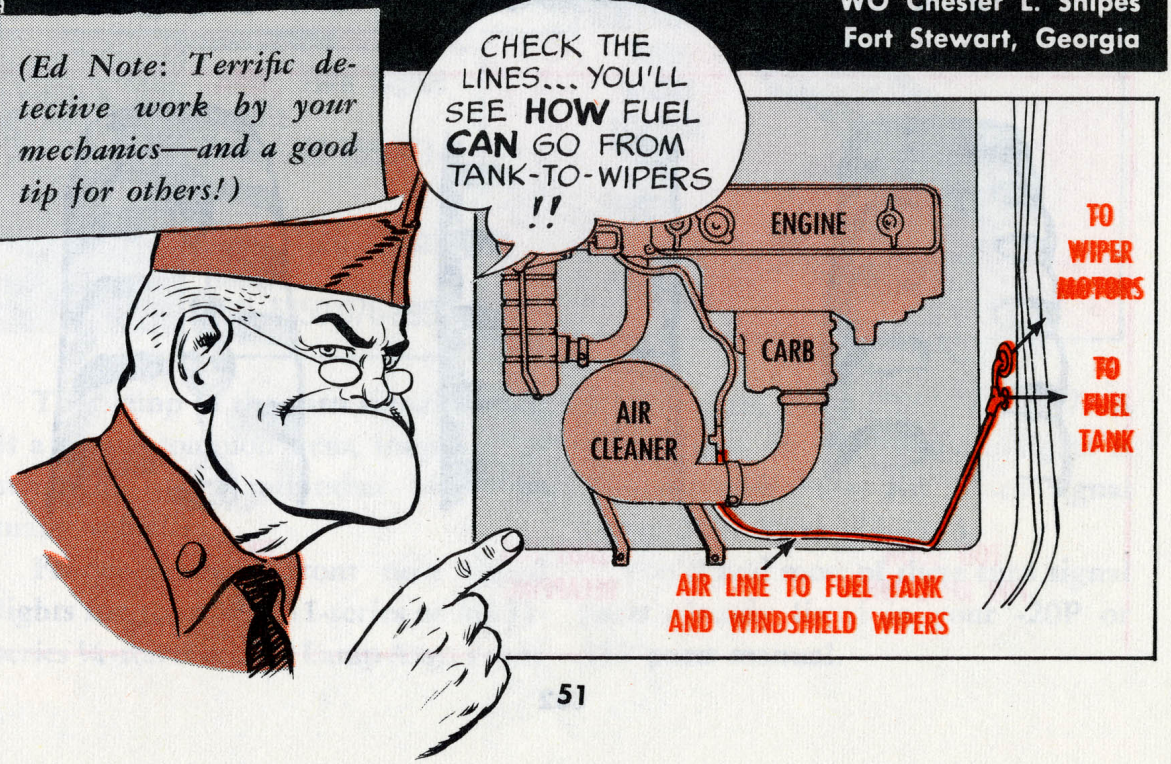
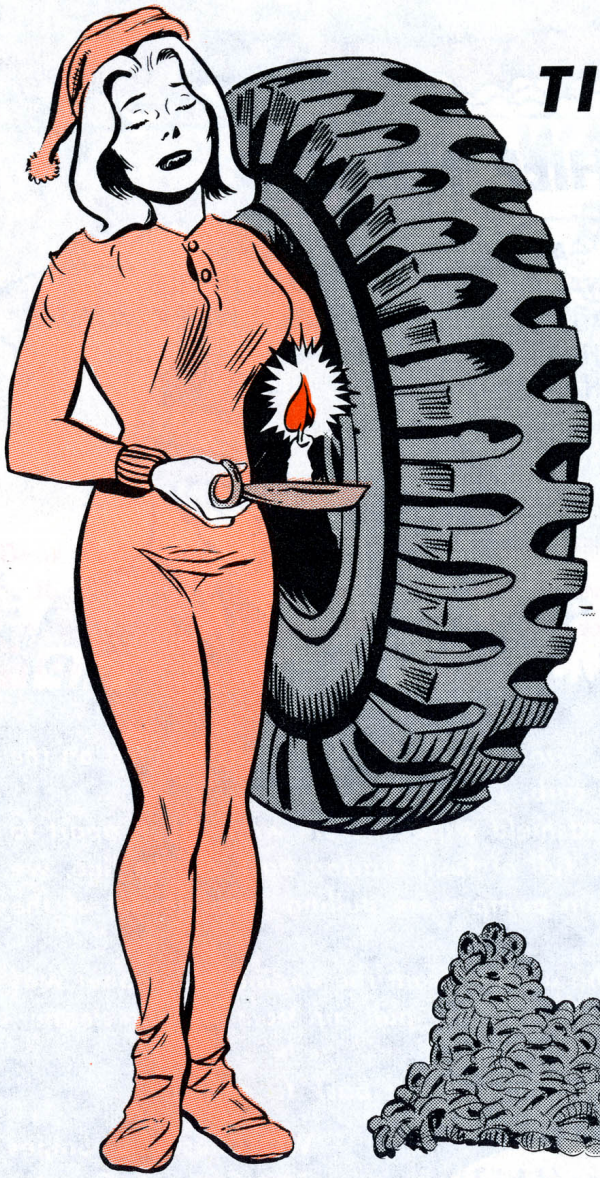


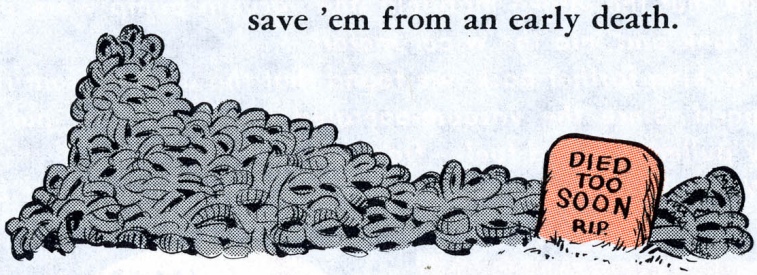
TIME TO RE-TIRE?

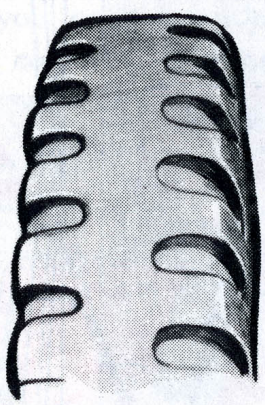


There's just a right time when a tire's ripe for recapping. Catch it at that time and you'll get the most miles out of a tire and still save it for another go-around.

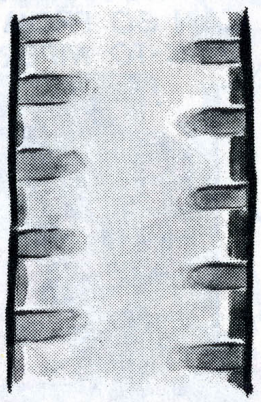
You don't have to be an expert to tell when a tire has gone far enough but hasn't gone too far. Dig out TM 9-1870-1 w/Ch 3 (Feb 67). Look at the pictures on pages 37 and 38. Read para 29. Then walk around your truck. Look at your tires real close. Run your hand over the tread. Sing out if you've got any tires that're ready for recapping.

It's a doggoned shame when a tire's allowed to reach that point-of-no-return. So be a friend of your tires—save 'em from an early death.

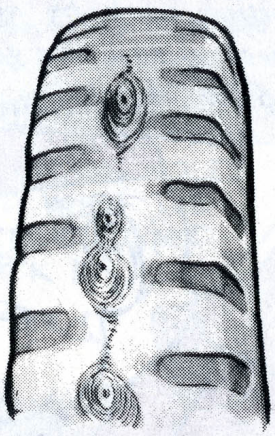




TOO SOON FOR RECAPPING

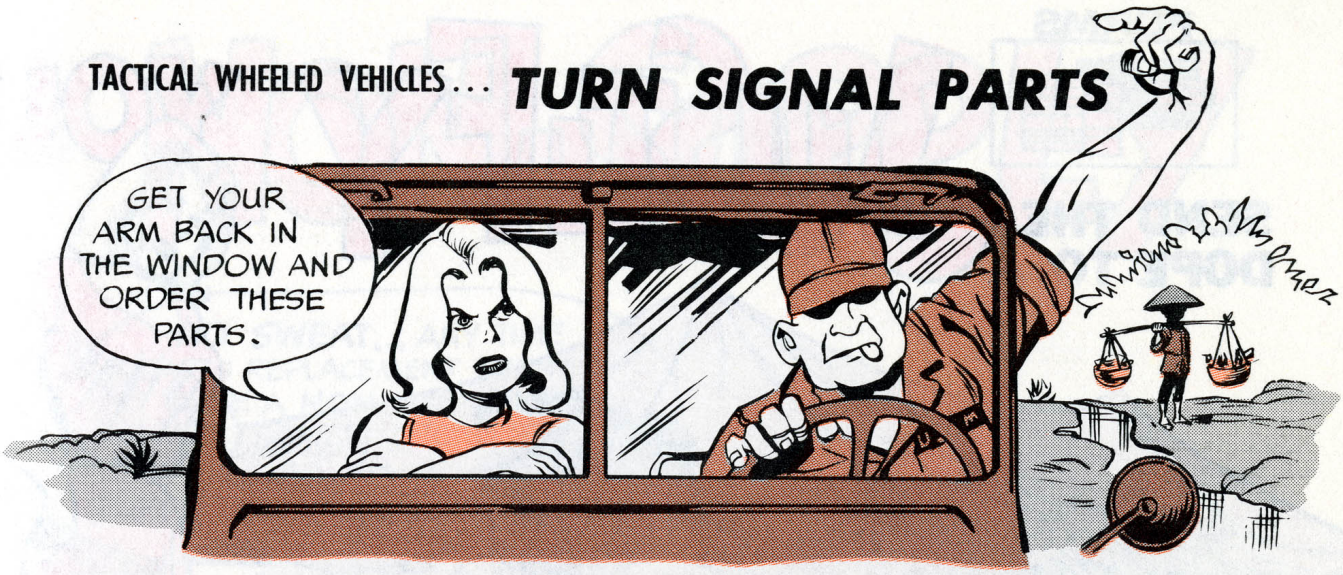


READY FOR RECAPPING



TIRE DESTROYED — NOT REMOVED IN TIME

TACTICAL WHEELED VEHICLES... TURN SIGNAL PARTS

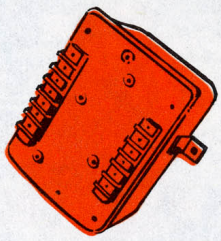


Except for a few items, turn signal repair parts are the same for all tactical wheeled vehicles—if the turn signal system was put on in production or by MWO 9-2300-263-20 (Aug 63).

Here're all the replacement parts with up-to-date FSN's:

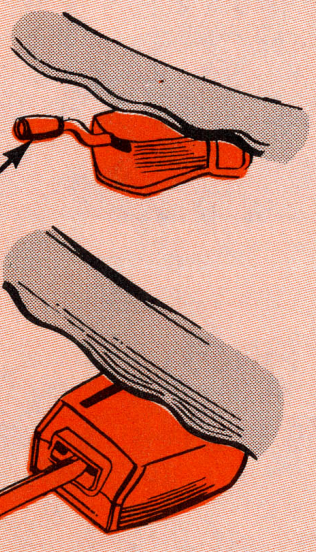
BOX, Distribution, FSN 2590-906-0155

GASKET, Distribution Box, FSN 2590-953-2177



FLASHER, Thermal, FSN 5945-952-3818

CONTROL, Directional, FSN 2540-953-2180 (except the M123A1C 10-ton truck uses **CONTROL,** Directional, FSN 6220-903-7206)



LAMP, Turn Signal Handle, FSN 6240-155-8714

LENS, Turn Signal Handle, FSN 5850-076-8992

That lamp in the turn signal handle is a pretty common item, found in instrument lights and other places on many vehicles.

Fender-mounted front turn signal lights for your M38A1-series or M151-series ¼-ton truck are Lamp Assy, Front Turn Signal, FSN 6220-788-5887. A busted lens on one of these lights is replaced with Parts Kit, Turn Signal Lamp, FSN 2590-754-4113.

You'll find most of these turn signal parts already listed in your -20P or 35P parts manual.

FORMS

SEND THE DOPE TO...

JUSTIFY YOU

SUPPLY

SUPPLY

FIRST... CHECK THE SOURCE CODE IN YOUR EQUIPMENT (P) PARTS MANUAL. THIS'LL TELL YOU WHAT ACTION TO TAKE!!

CODE M — YOU CAN MANUFACTURE IT FROM ITEMS WHICH YOU CAN ORDER

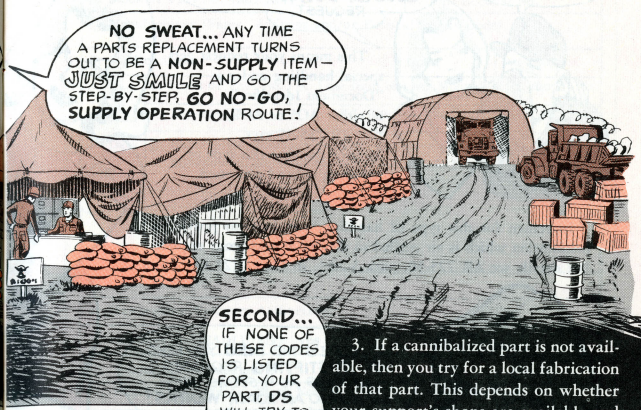
CODE A — YOU CAN ASSEMBLE IT FROM TWO OR MORE UNITS — ORDERED SEPARATELY

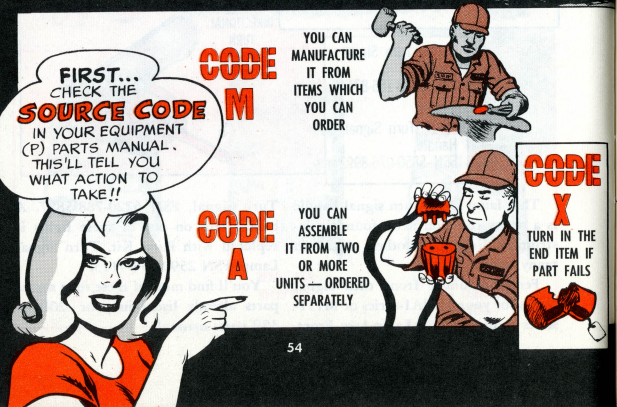
CODE X — TURN IN THE END ITEM IF PART FAILS

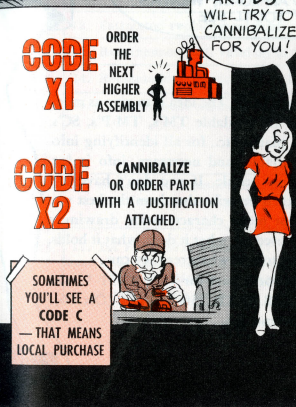
FORMS

SEND THE DOPE TO...

JUSTIFY YOUR NON-SUPPLY





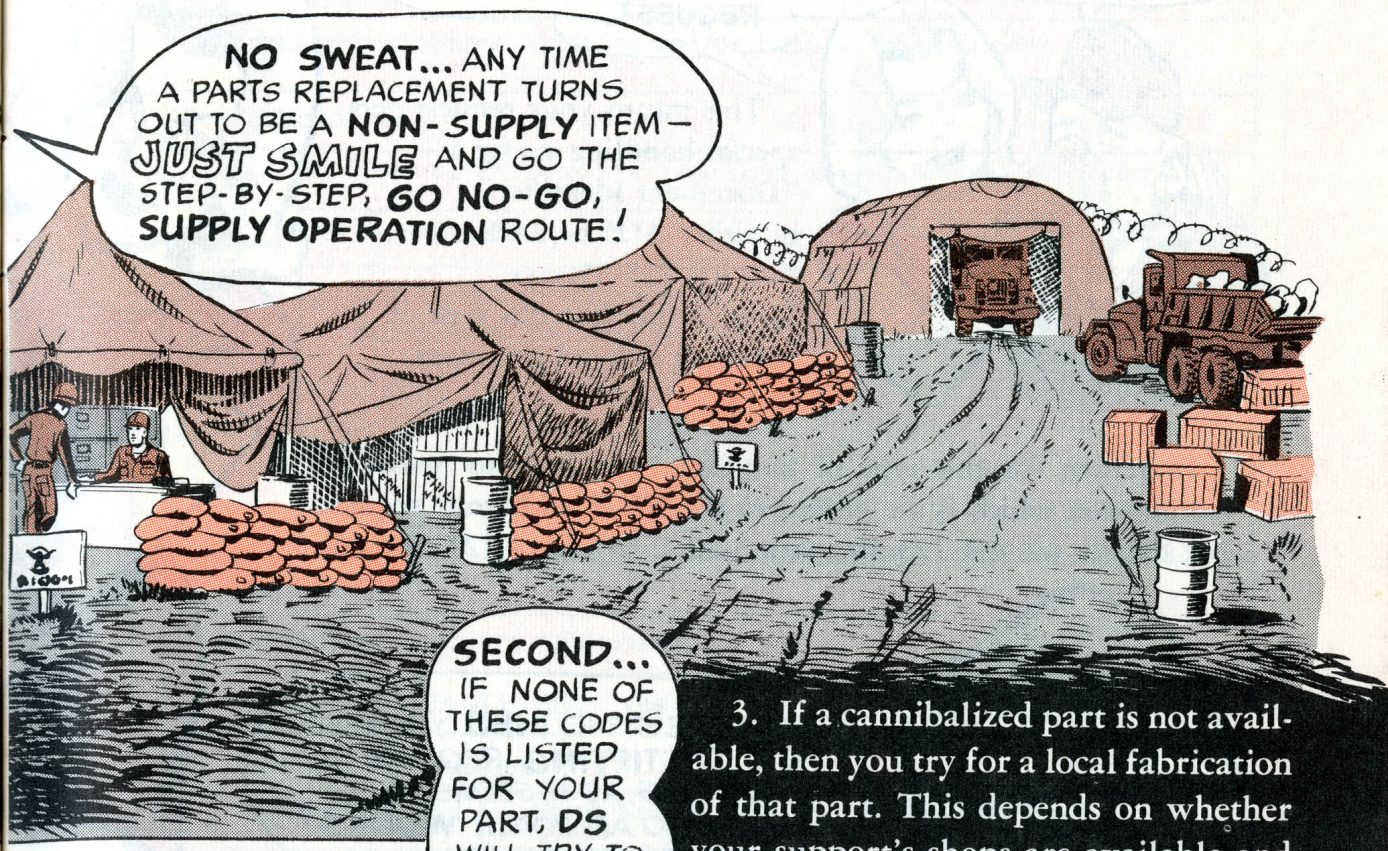


3. If a cannibalized part is not available, then you try for a local fabrication of that part. This depends on whether your support's shops are available and not overloaded with other work. An important point here is to save the broken or damaged part so the shop people can use it as a guiding template in making a replacement.

4. If neither cannibalization nor fabrication can get your replacement, then DS local purchases that item. This procedure is only good when you're located close to a dealer who handles that part, and you can get authorization to spend the money. The guide to this type procurement is in AR 715-30 which your support outfit uses.

MORE

R NON-SUPPLY



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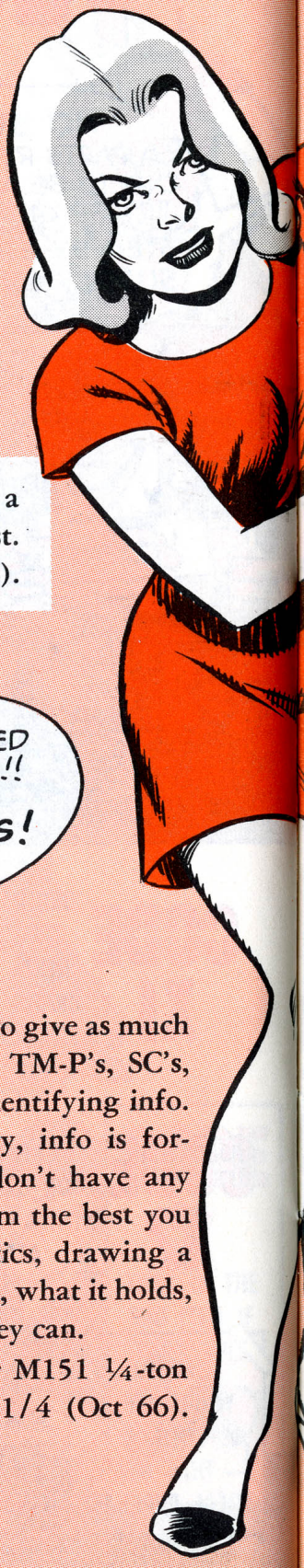
P.S. MORE

TIME FOR 'EXCEPTION'

This means your request gets special handling under a "Document Identifier" of either AO5 or AOE, like AR 735-35 says. Most of the time this type of handling is hand processed.

In return for this type of handling, you have to provide a justification which is air mailed to the NICP with your request. For details see AR 725-50, para 3-20.1, in Ch 11 (21 Oct 66).

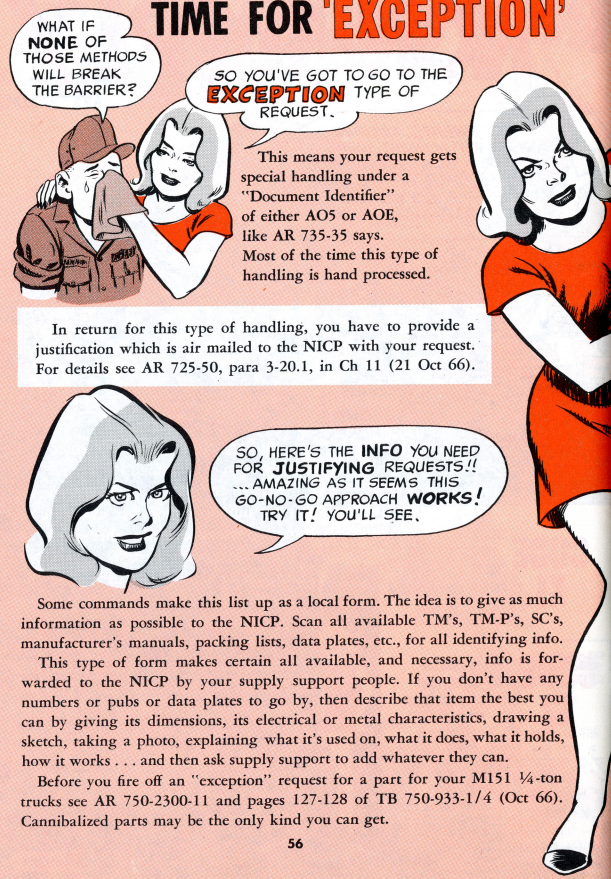


Some commands make this list up as a local form. The idea is to give as much information as possible to the NICP. Scan all available TM's, TM-P's, SC's, manufacturer's manuals, packing lists, data plates, etc., for all identifying info.

This type of form makes certain all available, and necessary, info is forwarded to the NICP by your supply support people. If you don't have any numbers or pubs or data plates to go by, then describe that item the best you can by giving its dimensions, its electrical or metal characteristics, drawing a sketch, taking a photo, explaining what it's used on, what it does, what it holds, how it works . . . and then ask supply support to add whatever they can.

Before you fire off an "exception" request for a part for your M151 ¼-ton trucks see AR 750-2300-11 and pages 127-128 of TB 750-933-1/4 (Oct 66). Cannibalized parts may be the only kind you can get.

TIME FOR 'EXCEPTION'



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HERE'S A SUGGESTED FORM... TO USE WITH ISSUE REQUEST.

JUSTIFICATION FOR A NON-SUPPLY ITEM — Ref: AR 725-50, para 3-20.1

1. Nomenclature of Requested Item: ANCHOR, FIELD CHOCK, FRONT
2. Stock or Part No. (Mfr No.) UNK — 3. Unit Request No. 67-145
4. Manufacturer (Name, Address and/or Federal Supply Code) IHC, CHICAGO, ILL.
5. Publication: NOT IDENTIFIED IN CURRENT PUBS — Date: X — Page No. X
6. End Item Data
   - a. Stock or Part No. 2320-835-8325 — b. Line Item No. X83299 — c. Model No. M62 — d. Serial No. 721
   - e. Contract No. DA-20-089-ORD-8292-FS — f. Frame, Chassis or Data Plate No. 9524 12238
   - g. Description (continue on back--include nomenclature, sketch, dimensions, physical characteristics, etc.) CAST STEEL 5-TON MEDIUM WRECKER — SIDE VIEW 10" — FRONT VIEW 4¼" — 5"
7. Using Activity: HQ CO, 56th BDE, 12th INF DIV
8. Maintenance Category Authorized: ORGANIZATIONAL
9. End item be DEADLINED? yes ____ no ✓ If yes, date ____
10. Reason for replacement: BROKEN IN OPERATION
11. Next higher assy: NONE — a. Stock No. NA — b. Cost NA — c. Description NA
12. Estimated replacement cost: $19.00 — a. Item $15.00 — b. Manhours $4.00
13. Requirement still valid up to 360 days? yes ✓ no ____
14. Reclamation, fabrication or local purchase attempted? yes ✓ no ____
15. Reasons these methods were not successful: CANNIBALIZATION POINT DOES NOT HAVE ITEM. FABRICATION & LOCAL PURCHASE NOT AVAILABLE.
16. Anticipated replacement rate for requested part — a. End items on hand ONE — b. Parts quantity 2 EA — c. Replacement Period (Months) UNK
17. DA Form 2028 submitted? yes ✓ no ____ If not, why? ____
18. Additional Missile & Rocket Item Data — System NA — Serial No. NA

END

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2320-835-8325	X63299	M62	721

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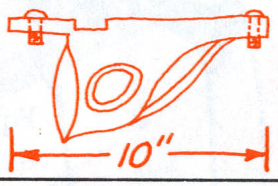
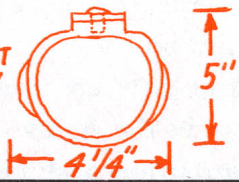
CAST STEEL

5-TON MEDIUM WRECKER

SIDE VIEW



FRONT VIEW



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11. Next higher assy:	a. Stock No.	b. Cost	c. Description
NONE	NA	NA	NA

12. Estimated replacement cost:	a. Item	b. Manhours
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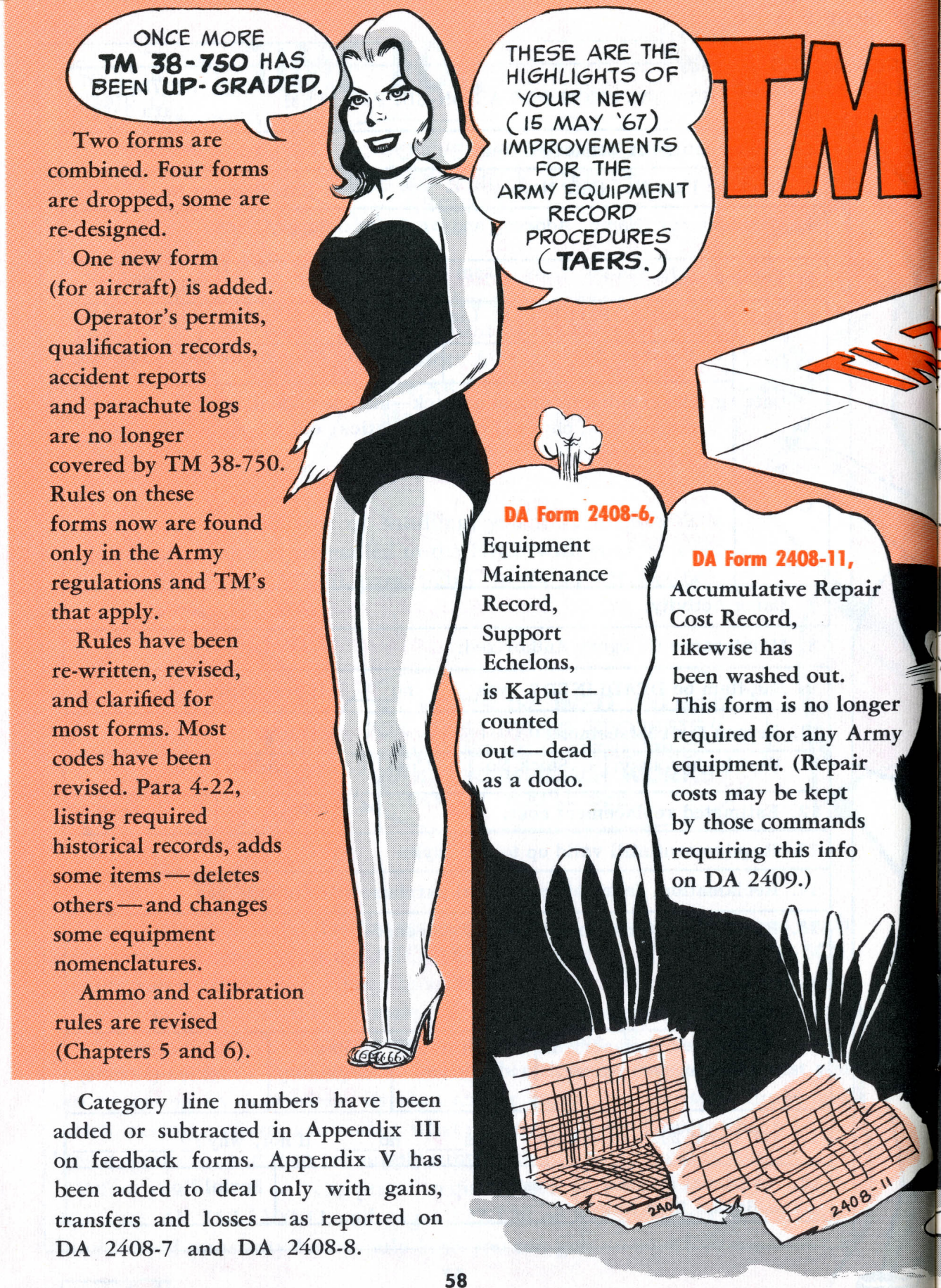
16. Anticipated replacement rate for requested part	a. End items on hand	b. Parts quantity	c. Replacement Period (Months)
	ONE	2 EA	UNK

17. DA Form 2028 submitted? yes ✓ no____ If not, why?____

18. Additional Missile & Rocket Item Data	System	Serial No.
	NA	NA

END



Two forms are combined. Four forms are dropped, some are re-designed.

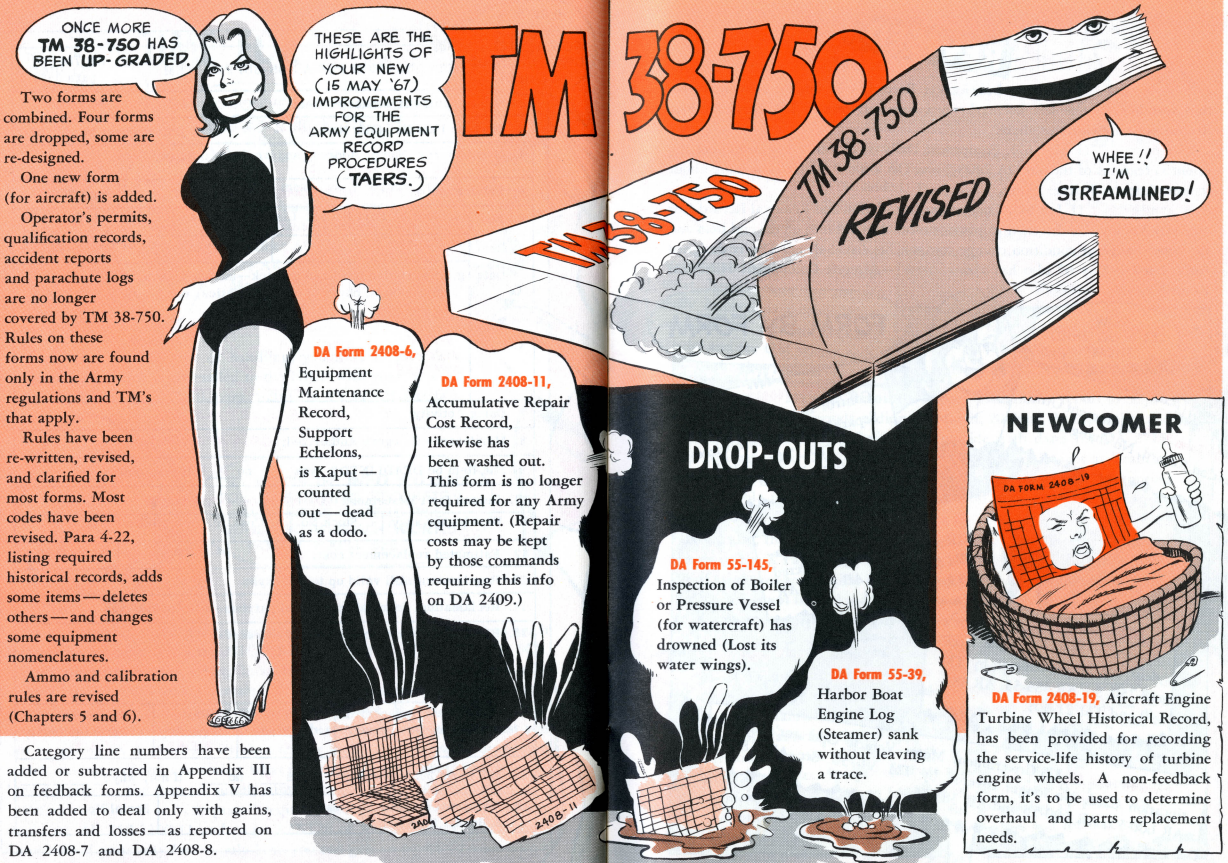
One new form (for aircraft) is added.

Operator's permits, qualification records, accident reports and parachute logs are no longer covered by TM 38-750. Rules on these forms now are found only in the Army regulations and TM's that apply.

Rules have been re-written, revised, and clarified for most forms. Most codes have been revised. Para 4-22, listing required historical records, adds some items—deletes others—and changes some equipment nomenclatures.

Ammo and calibration rules are revised (Chapters 5 and 6).

Category line numbers have been added or subtracted in Appendix III on feedback forms. Appendix V has been added to deal only with gains, transfers and losses—as reported on DA 2408-7 and DA 2408-8.



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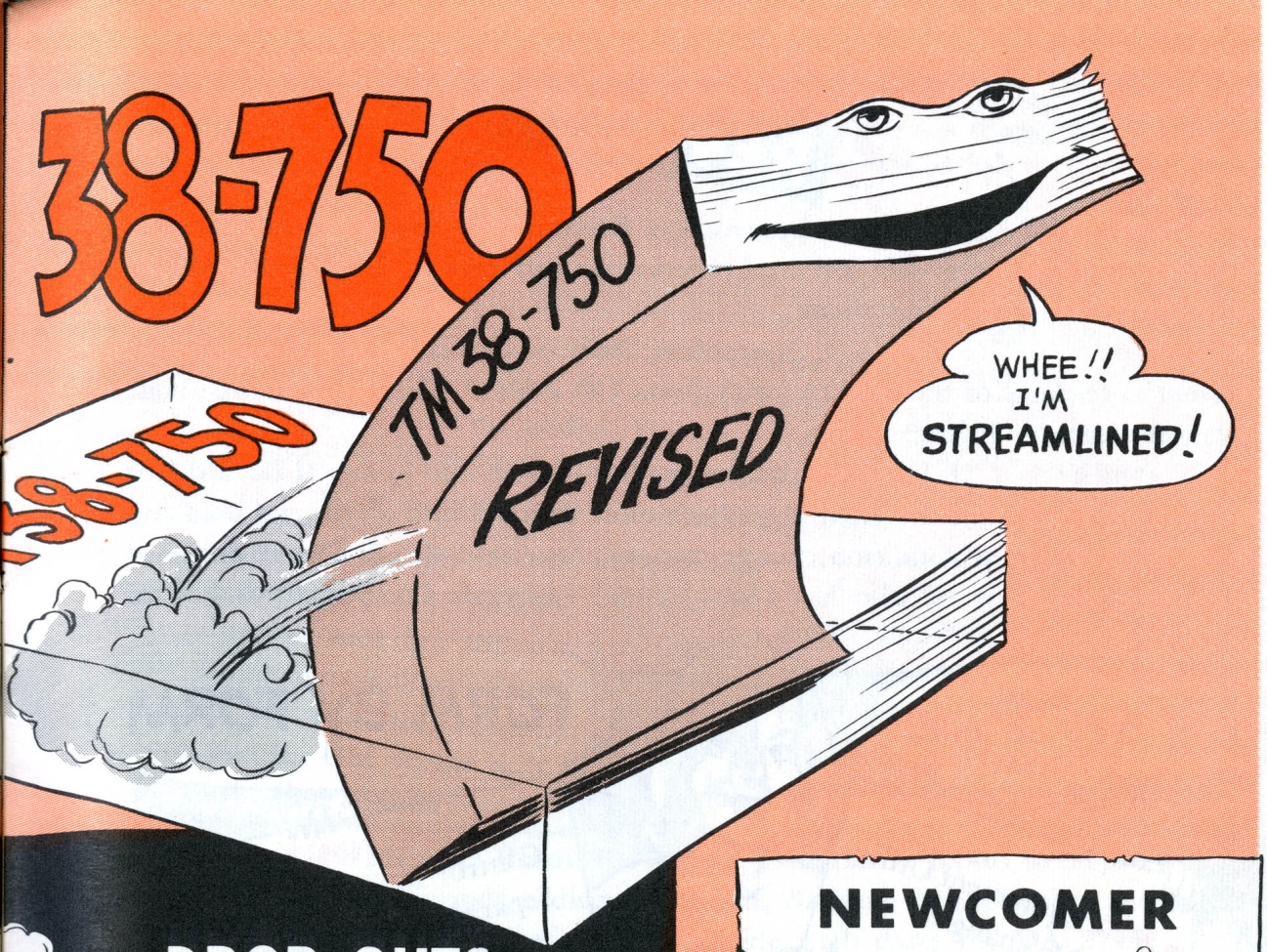
DA Form 2408-19, Aircraft Engine Turbine Wheel Historical Record, has been provided for recording the service-life history of turbine engine wheels. A non-feedback form, it's to be used to determine overhaul and parts replacement needs.

MORE



DROP-OUTS

DA Form 55-145, Inspection of Boiler or Pressure Vessel (for watercraft) has drowned (Lost its water wings).

DA Form 55-39, Harbor Boat Engine Log (Steamer) sank without leaving a trace.

NEWCOMER

DA Form 2408-19, Aircraft Engine Turbine Wheel Historical Record, has been provided for recording the service-life history of turbine engine wheels. A non-feedback form, it's to be used to determine overhaul and parts replacement needs.

P.S MORE

REVISED

DA Form 2408-2, Equipment Lubrication Record, will not be seen again **by that number.** But it left its mark on a new and revised DA Form 2408-1. Record your lubrications there.

DA Form 2408-1 (1 May 67), Equipment Daily or Monthly Log, combines the essential features of the old DA 2408-1 and DA 2408-2. There'll be more about its new features further along.

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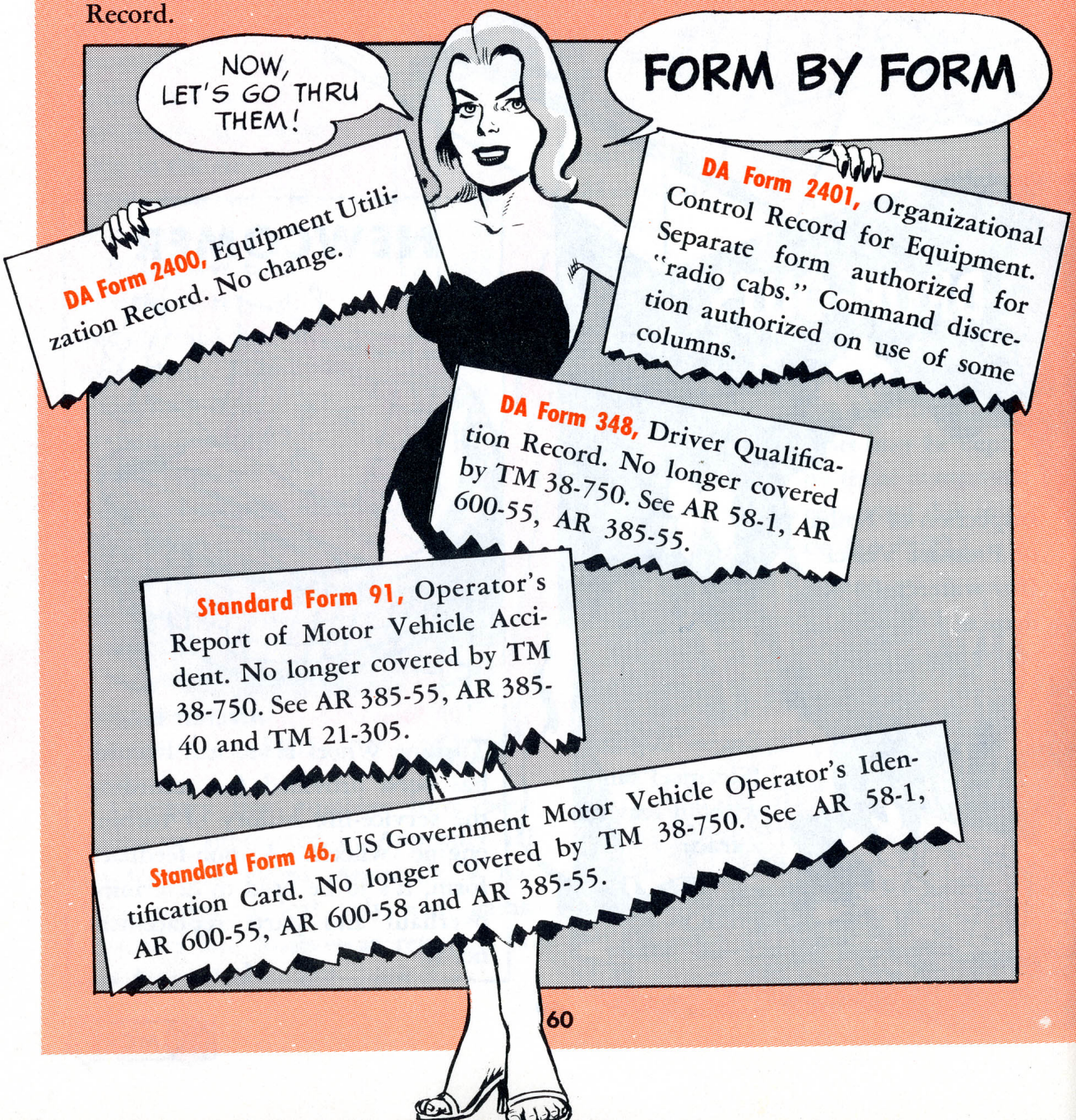

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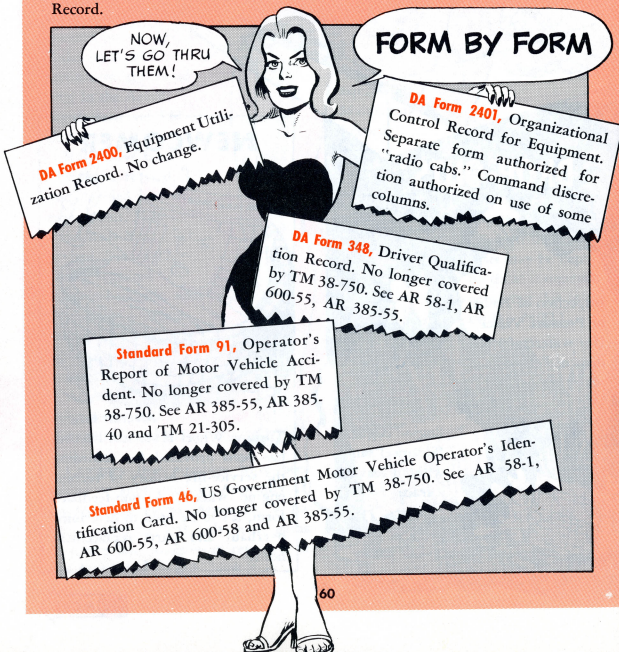

MAINTENANCE RECORDS

DA Form 2402, Exchange Tag. Calls for use of CB codes in block 27 when used for missile systems components.

DD Form 314, Preventive Maintenance Schedule and Record. Code entries re-defined. Code R for recoil exercise and code B for service at two-year interval added. Days out of service at organization to be indicated by symbol O, at support by symbol X. Requirement that DD 314 go with equipment on transfer deleted.

DA Form 2404, Equipment Inspection and Maintenance Worksheet. Requirement for aircraft daily inspections deleted. Now required for recording CMMI results and for GM system technical evaluation results.

DA Form 2405, Maintenance Request Register. Permits command discretion on use of certain columns and use of local job order number.

DA Form 2406, Materiel Readiness Report. Cumulative report to be prepared for 3-month periods ending 21 March, 20 June, 20 September and 21 December each year (These dates coincide with dates for DA 2715, unit readiness, and DA 2408-3.) Close out. Some equipment at Training Centers and schools no longer reportable. Rules revised for computing non-available time and priorities changed on listing for Red rating on equipment.

Note, also, that para 2a of Appendix III says: "For Materiel Readiness reporting, the X's appearing in DA Form 2406 column requires the reporting of all makes and models encompassed by the generic noun nomenclature . . . and is **not** limited to only those specific models listed except where the X appears opposite the model number."

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DIG DEEPER MORE

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PS MORE

DA Form 2410, Component Removal and Repair/Overhaul Record, and **DA Form 2410-1,** Transaction Report. Instruction completely re-written. Major changes include use for nuclear weapons, for selected ammunition items (Chapter 5), and use of new loss and gain code.

One of the major clarifications on this form deals with reportable sub-assemblies. When a reportable sub-assembly is attached to a reportable major assembly, a DA 2410 required upon removal of the sub-assembly is prepared only upon removal of the sub-assembly from the reportable major assembly to which it is attached.

Detailed instructions on disposition of the form are added.

FLOATING EQUIPMENT FORMS

Except for deletion of DA Forms 55-39 and 55-145, the floating equipment data forms and logs are unchanged. The forms retained are:

DA Form 55-26, Floating Equipment Data—General Characteristics.

DA Form 55-27, Floating Equipment Data—Engine Data.

DA Form 55-28, Floating Equipment Data—Boiler Data.

DA Form 55-29, Floating Equipment Data—Miscellaneous Machinery.

DA Form 55-30, Floating Equipment Data—Pump Data.

DA Form 55-31, Floating Equipment Data (Electrical Equipment).

DA Form 55-40, Harbor Boat, Deck Department Log for Class "A" and "B" Vessels.

DA Form 55-42, Harbor Boat Deck and Engine Log.

DA Form 55-44, Harbor Boat Engine Department Log for Class "A" and "B" Vessels.

DA Form 55-186, Floating Equipment Data—Electronic Equipment.

HISTORICAL RECORD FORMS

DA Form 2408, Equipment Log Assembly (Records). Form revised as of 1 May 67 to provide new definitions of equipment status symbols.

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DA Form 2408-3, Equipment Maintenance Record (Organizational). Rules changes clarify maintenance actions to be recorded and use of form at various maintenance levels. Mandatory use by CMMI teams deleted. Close-out dates are coordinated with submission of DA 2406 — 21 Mar, 20 Jun, 20 Sep, and 21 Dec each year. Retention period for log copy is reduced from one year to 6 months, except for aircraft.

DA FORM 2408-3 SUBMISSION DATES ARE CHANGED.

DA Form 2408-4, Weapon Record Data. Rules drop recording of blank rounds, include requirement to record rounds fired by zone. Disposition changes **include** requirement to submit to AMC on 10 April and 10 October each year.

DA Form 2408-5, Equipment Modification Record. Rules changes drop requirement for use with parachutes and individual items such as binoculars and rifles, add instructions for superseded and rescinded MWO's.

DA Form 2408-7, Equipment Transfer Report. Revised rules add details on inventory gains and losses, unit transfers (with equipment), FSN changes, depot rebuild or overhaul, and include changes on preparation and distribution.

DA Form 2408-8, Equipment Acceptance and Registration Record. Rules changes add details on required preparation when equipment is acquired through specific sources or on hand and not previously reported. Also added is requirement for log copy entry at depot overhaul or rebuild.

DA Form 2408-10, Equipment Component Register. New guidelines on major components to be listed, including all on which age or usage data is required to compute ESC scores. Odometers and hourmeters are added to the list.

DA Form 2408-12, Army Aviator's Flight Record. Rule change on entry for helicopter landings.

DA Form 2408-13, Aircraft Inspection and Maintenance Record. Current form dated 1 Dec 66 added blocks for entry of aircraft landings and engine hot starts. Major change in use is that faults found at aircraft daily inspection will be entered directly on this form (DA 2404 is not used for aircraft **daily** inspections).

DA Form 2408-14, Uncorrected Fault Record. Rules on aircraft use add details on recording deferred installation of Normal MWO.

MORE

DA Form 2408-3, Equipment Maintenance Record (Organizational). Rules changes clarify maintenance actions to be recorded and use of form at various maintenance levels. Mandatory use by CMMI teams deleted. Close-out dates are coordinated with submission of DA 2406—21 Mar, 20 Jun, 20 Sep, and 21 Dec each year. Retention period for log copy is reduced from one year to 6 months, except for aircraft.

DA FORM 2408-3 SUBMISSION DATES ARE CHANGED.

DA Form 2408-4, Weapon Record Data. Rules drop recording of blank rounds, include requirement to record rounds fired by zone. Disposition changes **include** requirement to submit to AMC on 10 April and 10 October each year.

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PS MORE

DA Form 2408-15, Historical Record for Aircraft. No change.

DA Form 2408-16, Aircraft Component Historical Record. Form re-designed as of 1 May 67, instructions completely re-written to provide detailed procedures on use for time change major components, sub-assemblies and condition items. Details are added on disposition — including transcribing entries to a new form and forwarding the form upon disposal of items to which it applies.

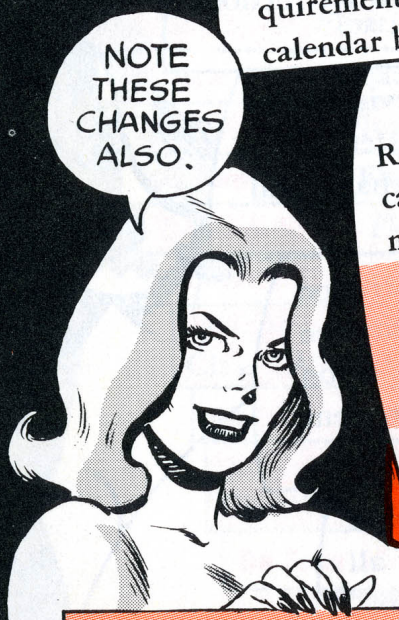
DA Form 2408-17, Aircraft Inventory Record. Revisions of rules deal primarily with entries on reverse side.

DA Form 2408-18, Equipment Inspection List. Rules add requirement to record schedule of components replaced on a calendar basis.

DA Form 2408-19, Aircraft Engine Turbine Wheel Historical Record. This form is a new, non-feedback record of significant historical data, including overhaul and parts replacement, covering the service life of an engine turbine wheel.

DA Form 2409, Equipment Maintenance Log (Consolidated). Major rules change requires use of DA 2409 for medical equipment with scheduled PM services. Requirement for use with commo and electronics items deleted.

DA Form 10-42, Army Parachute Log Record. No longer included in TM 38-750. See TM 10-1670-201-25.



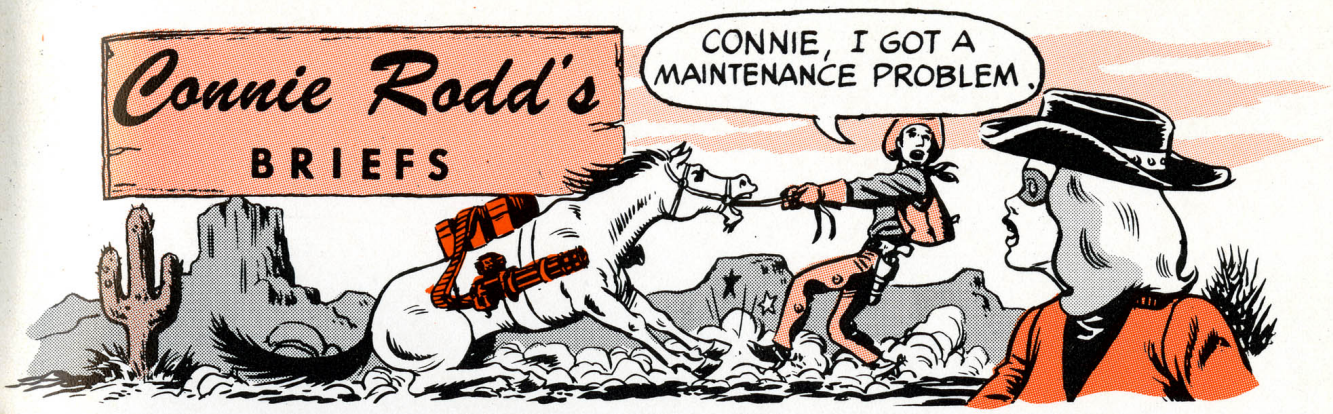
MISCELLANEOUS CHANGES

Note also that changes have been made in the following areas: Para 1-4g (Codes), para 1-8 (submission of DA 2028), para 4-21 (disposition of records), Appendix I (most codes revised, Location Code for motor vehicles dropped, Loss/Gain and Reason for Transfer codes added), Appendix II (mailing addresses updated), and Appendix IV on ammo (rules on feedback of DA 2408-3, DA 2410 and DA 2410-1 added).

IMPLEMENTATION

General implementation instructions on the revised records procedures are published in DA Cir 750-20 (5 Jun 67).

In addition to these general implementation rules, see DA Cir 750-21 (July 67) for aviation materiel. TAG Ltr AGAM-P (M) (2 Jun 67) LOG TR-CDVB dated 20 Jun 67, Subject: Commercial Design and Administrative Use Vehicle Inventory Reporting on DA Form 2408-7 for commercial and administrative-use vehicles, and TB 38-750-2 (10 Feb 67) for medical items. DA Pam 750-38 (30 Jun 67) will give you a lot of scoop on the TAERS forms.



Send It To Atac

Note for your EIR address list: EIR's on **commercial wheeled vehicles** (Category 340000 thru 346999) go to the ATAC address listed in Appendix II of TM 38-750—whether the specific vehicle is listed in para 4-22 of the TM or not. Since ATAC is now the boss for commercial vehicles, you send all correspondence on them to ATAC.

Load It Clean

Dirt on ammo causes bore wear.

And caked mud and grime is a special problem on the big ones—155-mm, 175-mm and 8-in ammo. You need a supply of good rags to keep the ammo wiped clean and ready for loading. It's a needed chore to protect the bore.

Engine Removal Scoop

There're 10 good reasons for yanking a bird engine called out in AR 750-23 (17 May 67), on validating removal of aircraft engines. Remember, tho, any other reason for engine removal prior to TBO has to be checked out by your general support.

Some Cuff Stuff

The width of the cuff of your pants depends upon their waist size and the leg length. So if you're thinking of pegging those trouser legs, you'd better take a look at Ch 11, Section VIII, to AR 700-8400-1. Altering the natural width of cuff is not authorized.

All Together Now

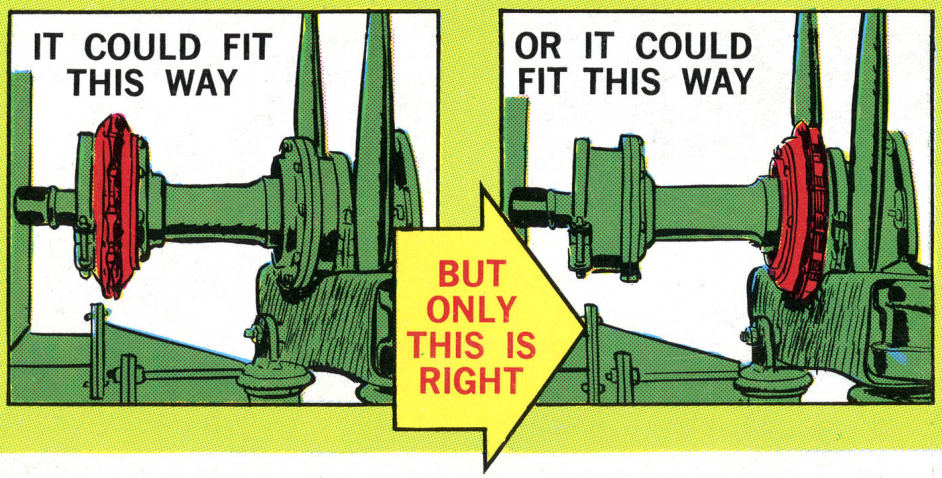
Gotta Military Standard generator? No sweat now 'cause TM 38-750 (15 May 67) doesn't have a separate line for 'em. Just report **any** generator (Mil Std, MD or whatnot) on the AC or DC line that applies. The Mil Std 1.5-KW AC 60CY now goes to line 740040. On this, there's no need to make corrected copies of DA 2408-7 and DA 2408-8 just to change the line number. But be sure to check DA Cir 750-20 (5 Jun 67) for switchover rules.

New Painting Pub

If you're looking for the latest painting and marking poop for your bird, reach for TB 746-93-2 (28 Jun 67) . . . it replaces TB AVN 7.

Would You Stake Your Life right now on the Condition of Your Equipment?

"Because it Fits!"
DOESN'T MAKE IT RIGHT



And on such a little difference can hinge the life of a pilot or the destruction of an expensive aircraft

NEVER TAKE ANYTHING FOR GRANTED

NEVER GUESS

MURPHY'S LAW MUST BE ABOLISHED!